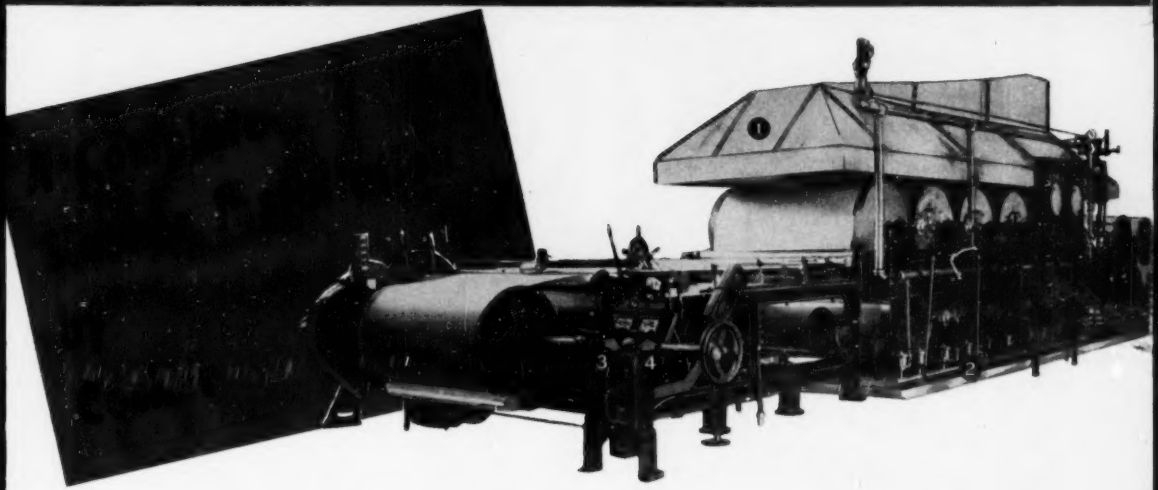
Textile Industries

COTTON
Textile Industries



We now have complete facilities for making complete size room installations . . . stainless steel cooking and storage kettles, stainless steel hoods, stainless steel drip pans . . . as well as modern high speed Cocker Slashers for cottons, spuns, filaments, and other yarns. Let us figure on the complete installation of everything in your slasher room.

COCKER HIGH SPEED 9-CYLINDER SLASHER
For Cottons, Spuns, Filaments, and Other Yarns

1. STAINLESS STEEL HOOD . . . by COCKER
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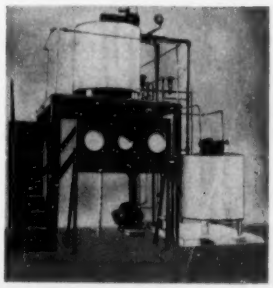
3. ACCURATE ELECTRIC STRETCH INDICATOR
4. ACCURATE ELECTRIC SPEED INDICATOR



Complete Cooking and Storage Kettle installation . . . mounted on all-metal Cocker-built tables.

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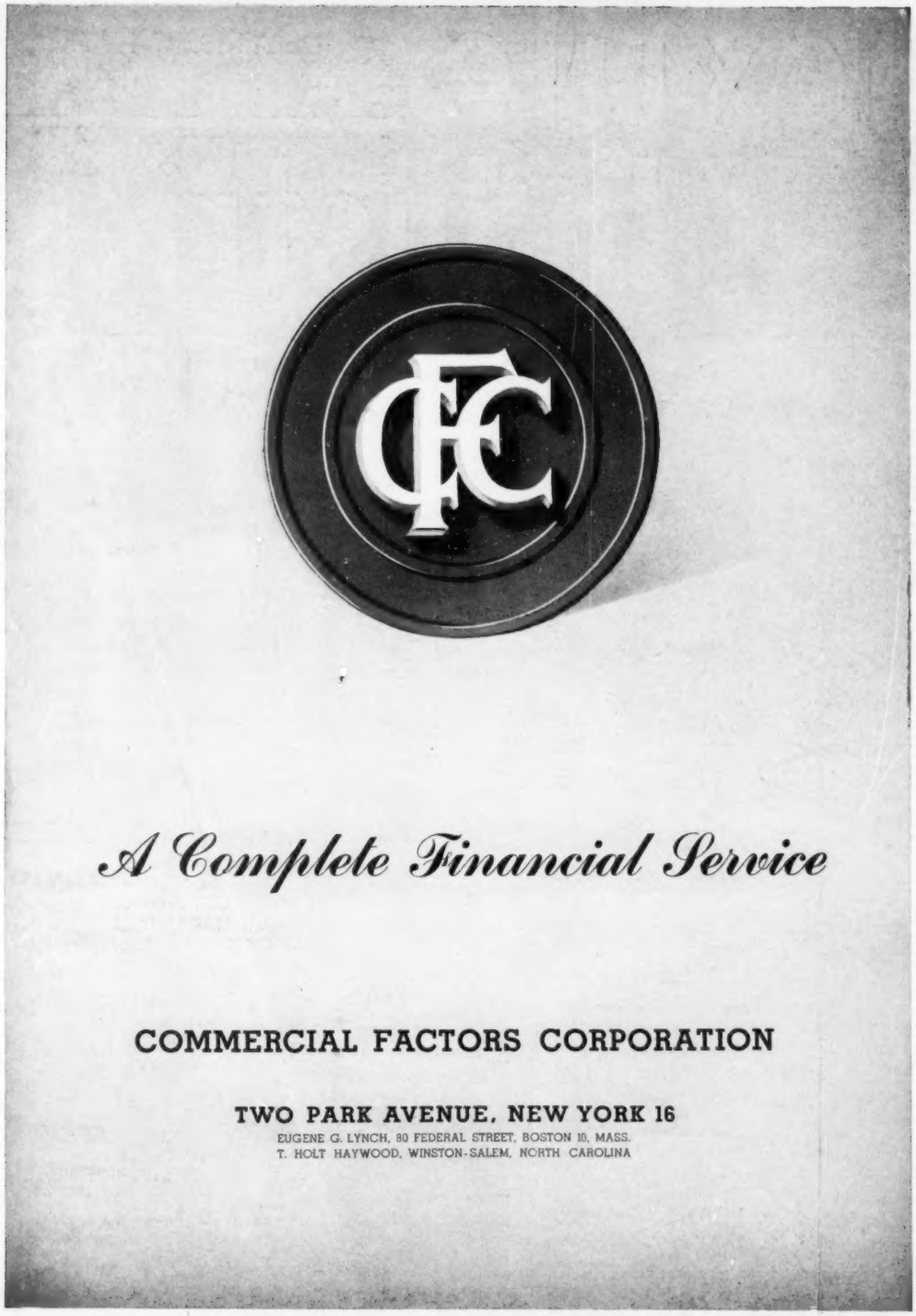
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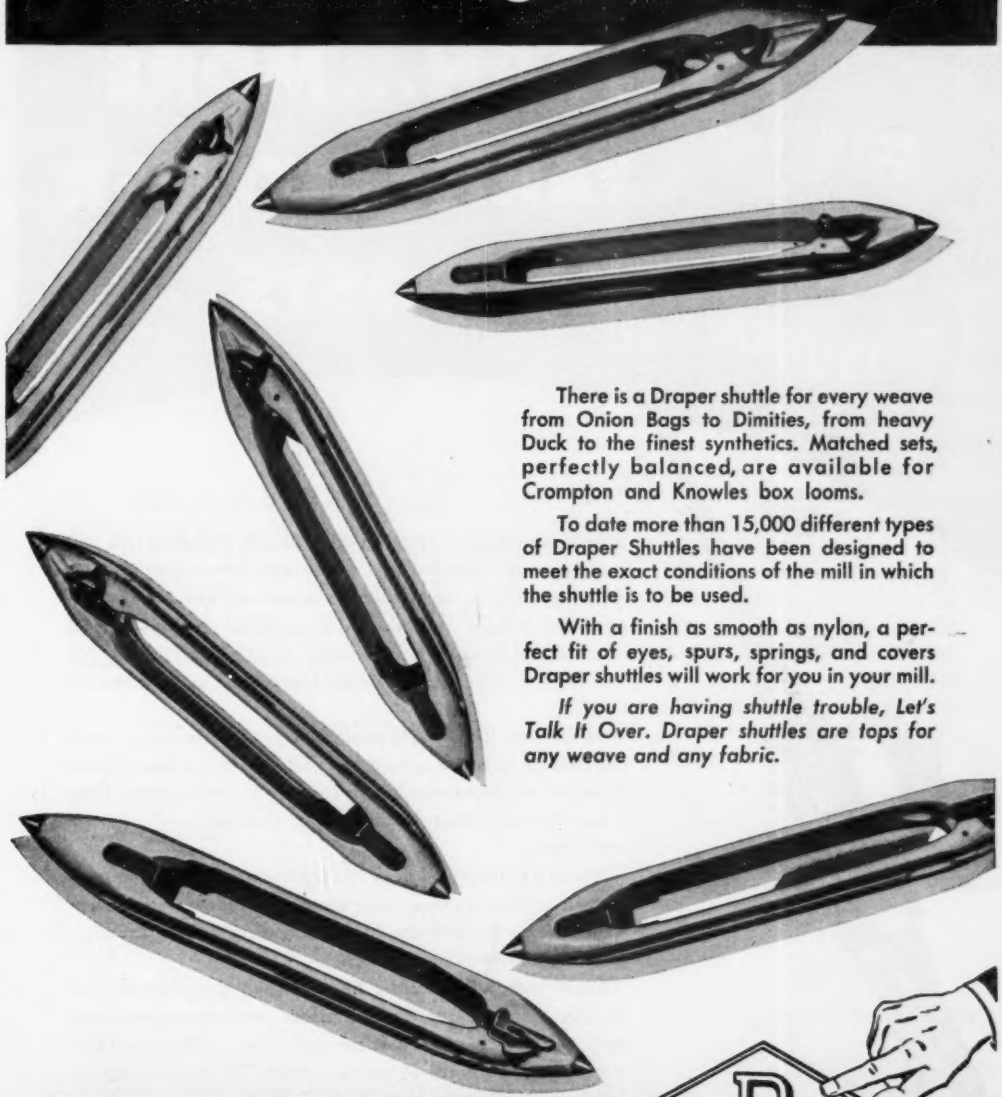
Volume 115 Number 12

From Onion Bags to Dimities



There is a Draper shuttle for every weave from Onion Bags to Dimities, from heavy Duck to the finest synthetics. Matched sets, perfectly balanced, are available for Crompton and Knowles box looms.

To date more than 15,000 different types of Draper Shuttles have been designed to meet the exact conditions of the mill in which the shuttle is to be used.

With a finish as smooth as nylon, a perfect fit of eyes, spurs, springs, and covers Draper shuttles will work for you in your mill.

If you are having shuttle trouble, Let's Talk It Over. Draper shuttles are tops for any weave and any fabric.

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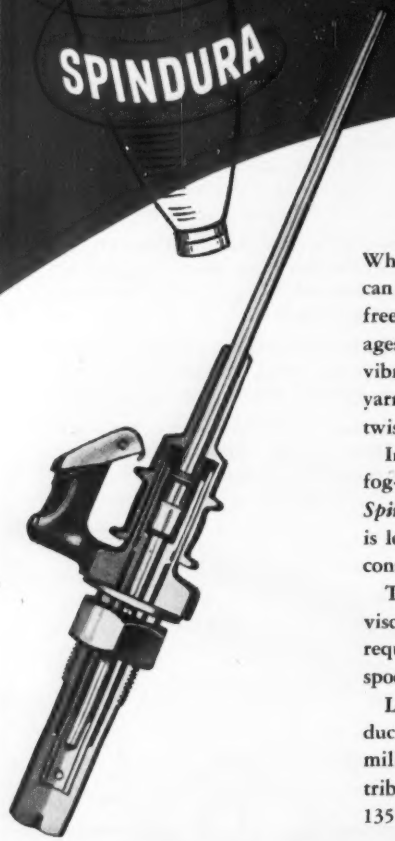
THE WORLD'S LARGEST MANUFACTURERS OF AUTOMATIC LOOMS

...FOR SMOOTHER YARN...MORE YARN...LOWER COSTS

SPIN WITH SPINDURA



When you lubricate spindles with *Texaco Spindura Oil,* you can count on increased production and better quality. This free-flowing oil permits full-speed operation with heavy packages and reduces ends down. It cushions spindles against vibration, eliminates hunting and lagging. You'll find that yarn doesn't chafe — comes through smoother, more uniformly twisted.

In addition, *Texaco Spindura Oil* stays in the bearings, won't fog-damage yarn on adjacent spindles. And because *Texaco Spindura Oil* doesn't thicken or gum up like inferior oils, there is less frictional drag in starting and running . . . less power consumption.

There is a complete line of *Texaco Spindura Oils* . . . suitable viscosities for every need. They meet all spindle manufacturers' requirements for effective lubrication of spinning, throwing, spooling and twisting spindles.

Let a Texaco Lubrication Engineer help you increase production, improve quality and reduce costs throughout your mill. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

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FOR THE TEXTILE INDUSTRY

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ABC NBP

Textile Industries

COTTON

Volume 115, Number 12
December, 1951

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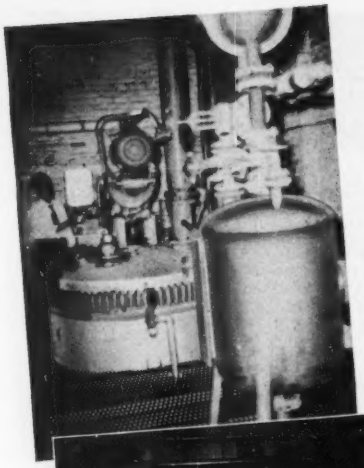

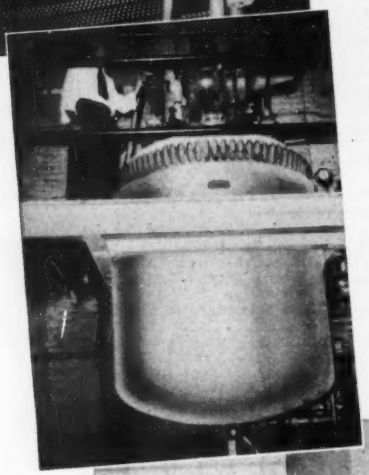

Another Improvement in Our Service to You

A new 750-gallon glass-lined reactor equipped with condensers and receivers for operation under vacuum . . . enlarged research facilities . . . new air conditioned offices . . . greatly increased capacity for synthesizing chemicals . . .

These are some of the features of a $50,000 expansion program—now completed—designed to give better service to the Wet Processing Industry.

These increased facilities are now yours to command. Added capacity plus the experience of trained, technical Field Representatives and a complete line of Fabric and Hosiery Finishes, Dyeing Assistants and Scouring Agents may hold the answer to your textile finishing problems. Write us today.

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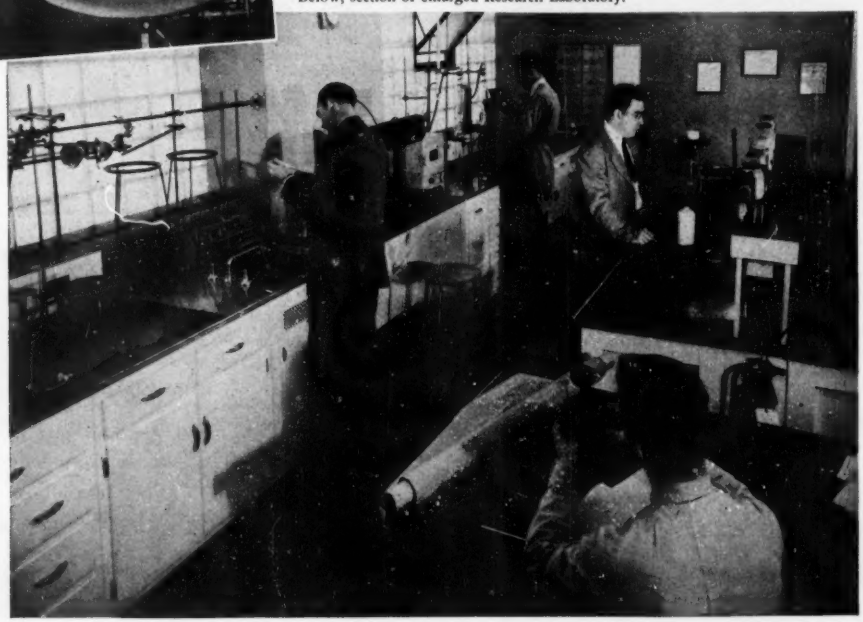
Southern Division: 1819 Spring Garden St., Greensboro, N. C.

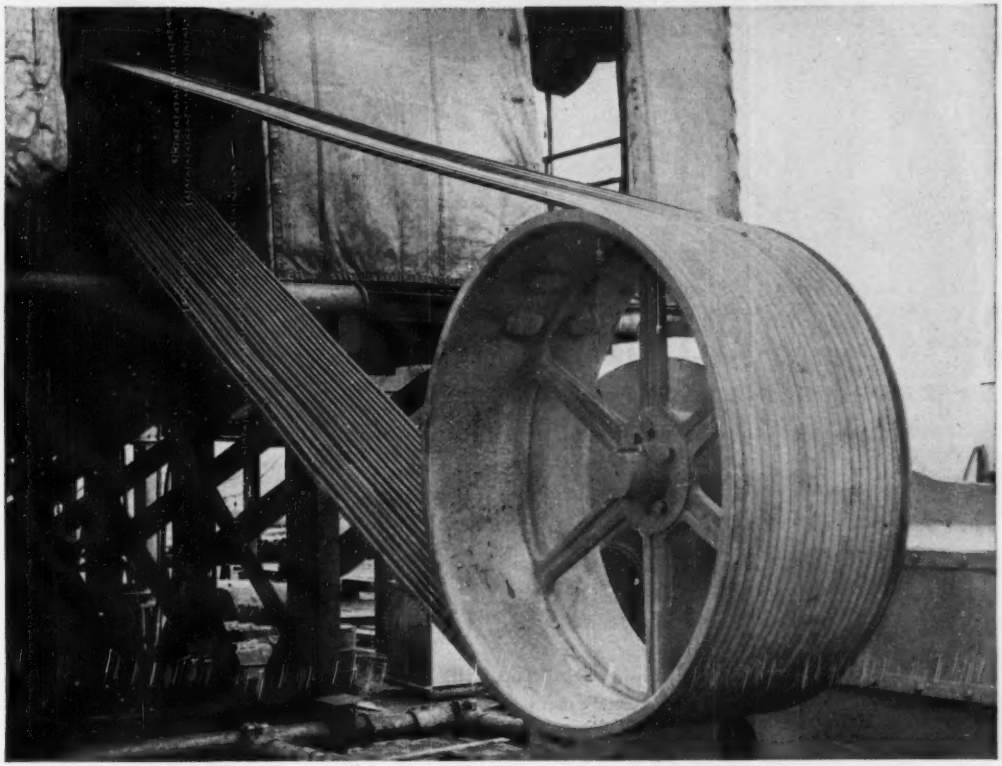
Amalgamated

At left, two views of 750-gallon glass-lined reactor now being used for manufacturing new members of the Amalgamated family of surface-active agents. Automatic controls, including a 3-stage vacuum steam jet, insure operation at proper reaction temperatures. A new fully automatic steam generating plant controls its independent operation.

Below, section of enlarged Research Laboratory.



RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER



Here B. F. Goodrich grommet belts are saving $104.50 a month

B. F. Goodrich grommet V belts cut costs 20 to 50%

THESE 18 V belts are needed to drive heavy pumps for drilling oil wells. The belts have to operate 24 hours a day, 7 days a week, in all sorts of weather. Ordinary belts couldn't stand the heavy pulling load, couldn't take the strain of round-the-clock operation. They averaged 9 months' life in this kind of service.

Then B. F. Goodrich grommet belts were tried. After 19 months, and drilling wells totaling 76,000 feet deep, these grommet belts look as good today as the day they were installed. Here's why B. F. Goodrich grommet belts can be counted on to save on belt costs:

No cord ends — A grommet is endless, made by winding heavy cord on itself to form an endless loop. It has no overlapping ends. Because most of the failures in ordinary V belts occur in the region where cords overlap, the endless cord section in a grommet V belt eliminates such failures.

Concentrated cord strength — All of the cord material in a B. F. Goodrich grommet multiple-V belt is *concentrated* in twin grommets, positioned close to the driving faces of the pulley. No layers of cords to rub against one another and generate heat; cord and adhesion failures are reduced.

Better grip, less slip — Because a grommet is endless, a grommet V belt is more flexible, grips the pulleys better. Size for size, grommet multiple-V belts will give ⅓ more gripping power, pull heavier loads with a higher safety factor.

Only B. F. Goodrich has the grommet!—No other multiple-V belt is a grommet V belt (U. S. Patent No. 2,233,294). Now available in C, D and E sections. See your local B. F. Goodrich distributor. *The B. F. Goodrich Company, Industrial & General Products Division, Akron, Ohio.*

Grommet V Belts BY

B.F.Goodrich

RUBBER FOR INDUSTRY

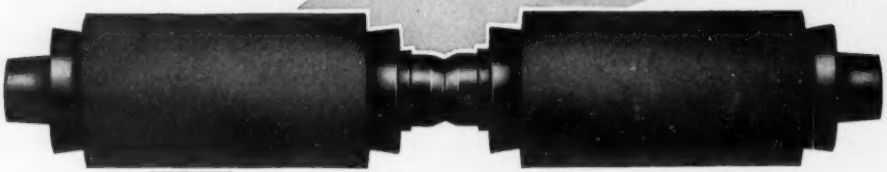
WHICH S-L-T TOP ROLL COST-CUTTING FEATURE WOULD HELP YOUR MILL MOST?

- NO WEEKLY OILING
- NO SPOILED YARN
- NO ROLL PICKING
- NO WASTED OIL

SACO-LOWELL-TORRINGTON

S-L-T NEEDLE BEARING TOP ROLL

FOR ROVING AND SPINNING



Mills using **S-L-T Top Rolls** may not all agree on the one money-and-time saving feature that benefits them most, but they all do agree that these modern, pre-lubricated top rolls bring them important over-all savings.

S-L-T Top Rolls eliminate weekly oiling . . . lubrication is needed only at overhaul periods. They do away with costly yarn spoilage from black oil. Because of inherent cleanliness, roll picking is practically eliminated. No oil is wasted. Wear due to motion is non-existent, because of the specially designed Needle Bearings. These are just a few of the 18 advantages S-L-T Top Rolls offer to mills that are seeking *better yarns at lower cost.*

Write for Folder No. 2. It gives complete data on every S-L-T feature. Or consult our nearest Sales Office regarding an engineering survey of your top roll problems.

S-L-T- TOP ROLLS are manufactured by THE TORRINGTON COMPANY, Torrington, Conn., and are available exclusively through

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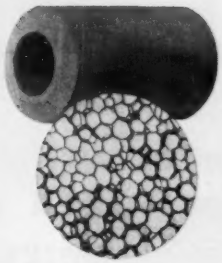


HERE'S THE SECRET of cork's fine spinning surface. Millions of cork cells like these (here magnified 1200 times) act like tiny suction cups to hold a firm, steady grip on the fibers and so draft strong, uniform yarn.

This roll cover gets rid of eyebrows

If you're having trouble with eyebrows, you'll see a dramatic change the moment you put Armstrong's Cork Cots on your frames. Your difficulties with eyebrowing suddenly stop.

Why? Because these cork cots have a high-friction surface that continually pushes loose fibers well back under the clearer where they can't cause trouble. Furthermore, in many cases, these covers actually reduce clearer waste as much as 50%.

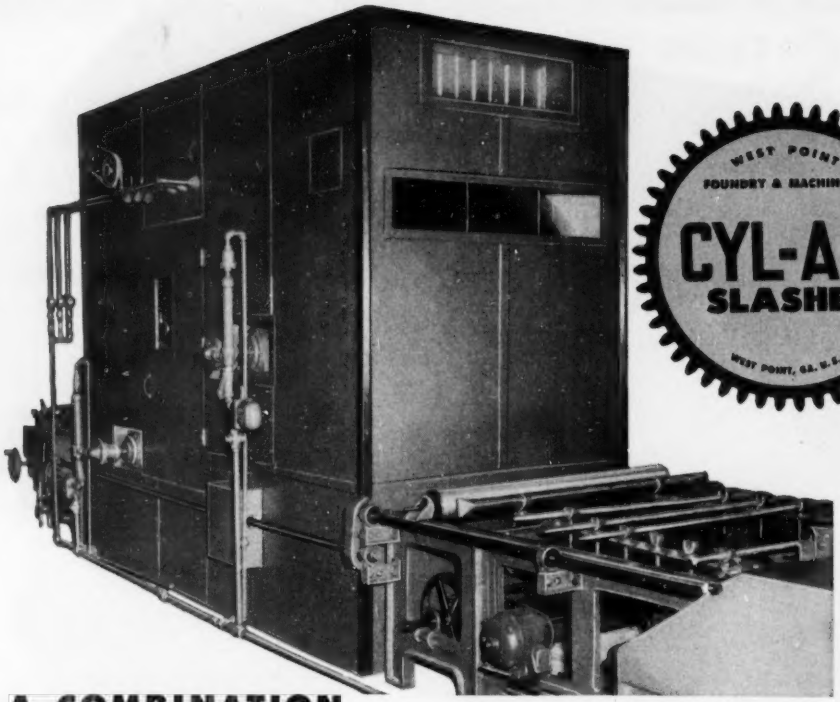
Armstrong's Cork Cots have what is considered by many mill men to be one of the finest drafting surfaces known. They hold a sure, firm grip and draft strong uniform yarn on even the finest counts.

Armstrong's Cork Cots are easy to install and maintain. They are made in one piece and pre-glued at our factory, ready to slip on your rolls in one simple operation. An occasional buffing keeps these covers spinning like new for two or three years on most counts and types of yarn.

We'll be glad to put them to the test in your own mill. Just call your Armstrong representative today or write Armstrong Cork Company, Textile Products Department, 3612 Arch Street, Lancaster, Penna. Available for export.

ARMSTRONG'S CORK COTS

for high-quality spinning . . . at low cost



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CYL-AIR SLASHER
WEST POINT, GA. U.S.A.

A COMBINATION CYLINDER and HOT AIR SLASHER DRYER

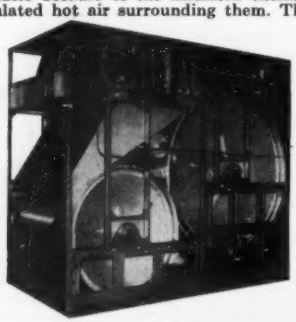
The CYL-AIR Slasher Dryer combines the advantages of cylinder and hot air drying in one efficient and compact unit. Its production rate is much higher than a conventional 2-cylinder dryer section, yet the CYL-AIR occupies no more floor space. It can be used with present head end, size box, and creel with very little change in conventional operating methods.

In the completely enclosed CYL-AIR Slasher Dryer, air is heated by three double-row steam coils, then circulated through the wet yarn and around the two cylinders by a triple unit centrifugal blower. A large percentage of the hot air is recirculated for better thermal efficiency.

The contact drying rate of the 5′ and 7′ cylinders of the CYL-AIR is greater than conventional type cylinders because of the insulated enclosure and the circulated hot air surrounding them. These welded, dished-head cylinders are made for steam pressures up to twenty-two pounds per square inch.

The CYL-AIR Slasher Dryer is designed for smooth operation and low maintenance cost. We will be glad to show you how the CYL-AIR can be easily adapted to your present slasher equipment.

The WPF&M CYL-AIR Slasher is one of the complete line of modern Slashers manufacturered by the WEST POINT FOUNDRY & MACHINE COMPANY—specialist in Slasher Room machinery and equipment.



INTERIOR OF THE CYL-AIR SLASHER DRYER

WPF&M WARP PREPARATION MACHINERY

Standard 2 and 3 Cylinder Slashers
Cyl-Air Slashers
Multi-Can Slashers
WPF&M Hi-Speed 4 Cylinder Slashers
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Standard WPF&M Head Ends
Multi-Motor Drives and Controls
Temperature, Speed and Tension Control Devices
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Model 50 Size Boxes
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to improved production and lower maintenance costs

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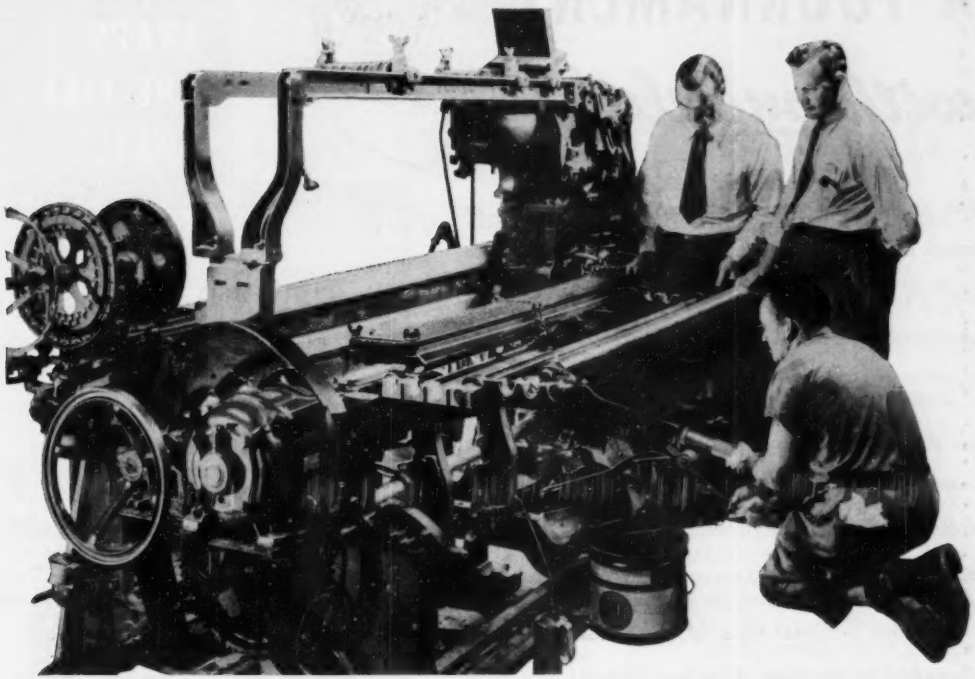

Here's effective help for every textile mill—Gulf Periodic Consultation Service. From this single source you can get practical help on any problem that involves a petroleum product—lubricants, fuels, solvents, rust preventives, special process oils, waxes.

Gulf Periodic Consultation Service makes available to you the regular counsel of one or more trained engineers who have years of experience with every type of textile process and equipment, and technologists who are skilled in every phase of petroleum science.

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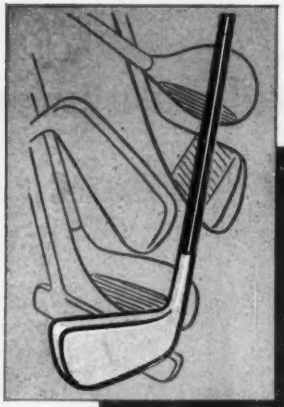
WOULD YOU PLAY A TOURNAMENT *with one club?*



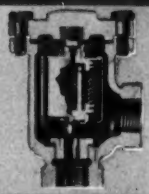
But on the golf course you can see the results. In steam hook-ups on the other hand, bad performance may go undetected for years, even though the traps apparently are working properly.

If you are in competition, it is certain that you cannot get the lowest fuel costs and highest production rates from steam heating and process equipment by "standardizing" on one type of steam trap for all purposes in your plant.

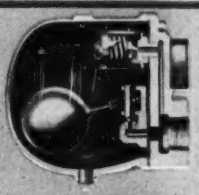
The four principal types of Sarco steam traps are illustrated at the right. They are available in a wide range of sizes and steam pressures and each has a specific function. The trick is to get the right trap on every steam job and every steam line in your plant. This can be done by calling in the Sarco Representative near you, or by asking for Sarco Catalog No. 1600 which gives recommendations for trapping all kinds of equipment, both indoors and out.

STEAM TRAPS ARE LIKE THAT...

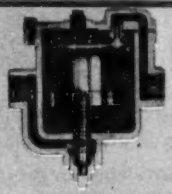
Thermostatic Trap



Float-Thermostatic Trap



Bucket Trap



Liquid Expansion Trap

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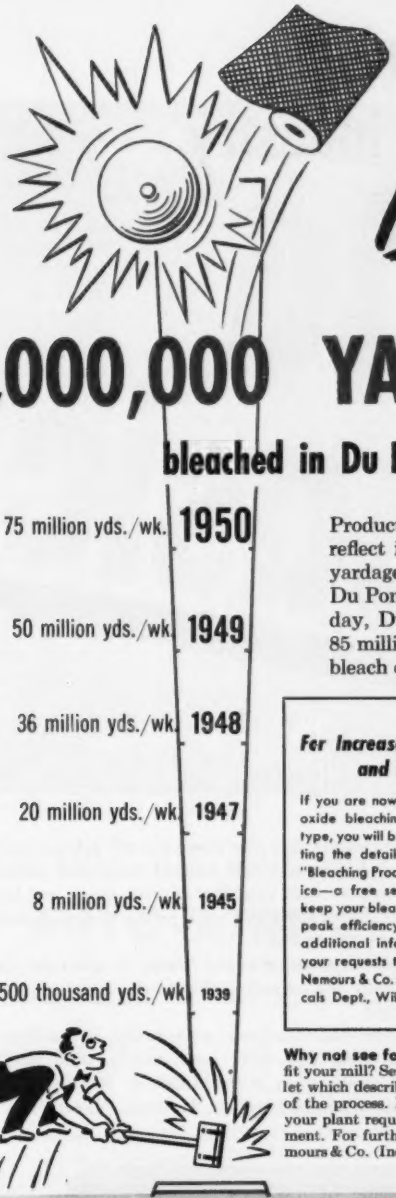
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50 million yds./wk. 1949
36 million yds./wk. 1948
20 million yds./wk. 1947
8 million yds./wk. 1945
500 thousand yds./wk. 1939

NOW IN '51!

85,000,000 YARDS PER WEEK

bleached in Du Pont Continuous Peroxide Systems

Production figures of Du Pont Continuous Peroxide Systems reflect industry's acceptance of the process. A glance at the yardage figures shows the steady growth since 1939, when Du Pont's first units were put into commercial operation. Today, Du Pont Continuous Bleaching Systems are producing 85 million yards per week . . . and have sufficient capacity to bleach over 65% of the annual cotton piece goods production in the United States!

Substantial advantages over older methods brought on this upswing. The Du Pont System gives top-quality bleaching with high speed. It's most economical. Because it's continuous, the process permits a steady production rate . . . assures uniform results. Today, systems of all types are available to meet space and capacity requirements of any size mill. That's why more and more mills are finding Continuous Bleaching the modern answer to bleaching needs.

For Increased Production and Profits!

If you are now operating a peroxide bleaching process of *any* type, you will be interested in getting the details on the Du Pont "Bleaching Process Analysis" Service—a free service designed to keep your bleachery operating at peak efficiency at all times. For additional information, address your requests to E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Del.

Why not see for yourself how Continuous Bleaching can benefit your mill? Send in the coupon below for our illustrated booklet which describes typical installations and explains all phases of the process. Du Pont technical men will be glad to survey your plant requirements and help you select the proper equipment. For further information, write to E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Del.

DU PONT
CONTINUOUS PEROXIDE BLEACHING

DU PONT
REG. U.S. PAT. OFF.

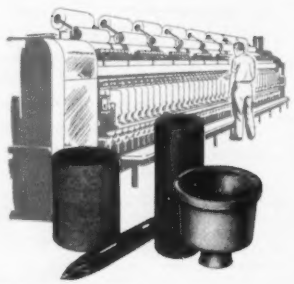
BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department, Wilmington 98, Del.
Please send me more information about . . .
___ Du Pont Continuous Peroxide Bleaching Systems
___ Du Pont Bleaching Process Analysis Service

*Name*_____ *Title*_____
*Firm*_____
*Street & No.*_____
*City*_____ *State*_____

In vital places in the textile industry

micarta is basic!



TEXTILE INDUSTRY

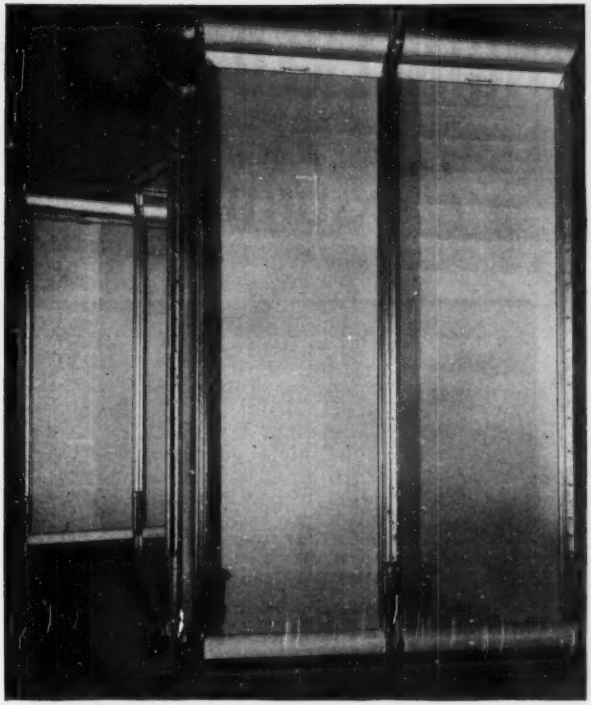
Bobbins, shuttles, spools and lap rolls are typical of MICARTA products which are vital elements in textile production. Its tough, light, long-wearing qualities offer infinite possibilities in the growing textile industry.

MICARTA® helps keep key machines productive. It is a basic material . . . a versatile plastic which outlasts metal and wood in many punishing applications. Bobbins, shuttles, spools and lap rolls are only a few of the many MICARTA products paying their way in your industry.

MICARTA safeguards yarns and fabrics. It won't chip or splinter. It wears evenly and smoothly, absorbs shock and vibration, resists heat and cold.

This lighter-than-aluminum material can be machined, formed or molded easier and more economically than metal. Protect your vital applications with MICARTA. Westinghouse Electric Corporation, MICARTA Division, Trafford, Pennsylvania. J-06648

today's best buy is better air!



Eight Section Auto-Airmat Double V installation

Five section Auto-Airmat wide angle arrangement

Four section Auto-Airmat straight bank arrangement

new mill installations of **AUTO-AIRMAT**

This automatic filter cleans return air • provides easy disposal of lint • reduces "overtime" maintenance on air washers

These recent Auto-Airmat installations show how modern textile mills are reducing operating costs. Excessive lint concentrations in spinning, weaving or carding rooms can be a costly problem. The AAF Auto-Airmat lint filter has proved to be a practical solution and was specially designed to shave these costs to a minimum.

In the Auto-Airmat a sheet of Airmat* media moves downward on an endless screen from a roll at the top of the filter and is rerolled at the base with its lint load . . . ready for easy disposal. The rate and frequency of screen travel is automatically controlled by a pressure switch. This starts the drive mechanism when resistance builds up to a predetermined maximum. The screen stops when sufficient clean Airmat has been introduced to reduce resistance by ¼" wg.

The automatic operating feature of the Auto-Airmat maintains maximum filter efficiency with minimum servicing. Also the collection method eliminates expensive "overtime" cleaning jobs and solves the disposal headache.

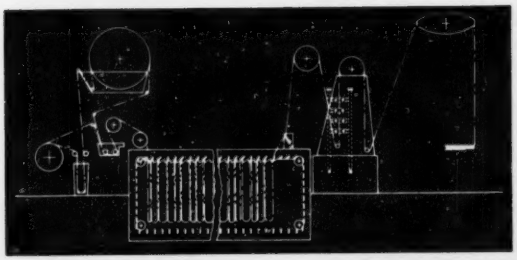
If lint from your weaving, carding or spinning rooms is a costly problem, call your AAF representative . . . or write us for Engineering Bulletin No. 234.

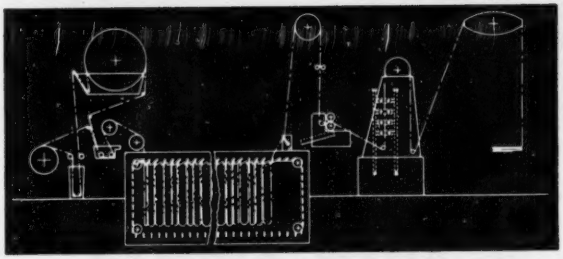
*Airmat is the trade-mark (reg. U. S. Pat. Off.) of the American Air Filter Company, Inc., for various air filters, dust collectors, and filtering media.

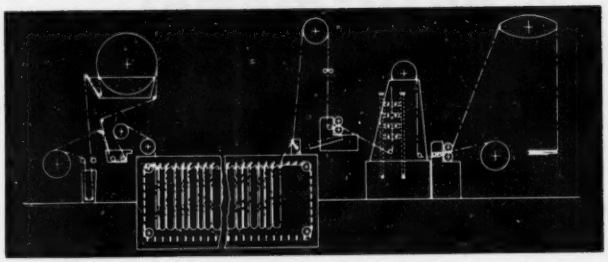
AAF American Air Filter
COMPANY, INC.

275 Central Avenue, Louisville 8, Kentucky • In Canada: Darling Bros., Ltd., Montreal, P. Q.

ENGINEERED FOR *Flexibility*







THE HINNEKENS BOIL-OFF

Outstanding in the finishing field, the Hinnekens Boil-Off has long been known for its flexibility. Its design and engineering are such that through the years it has been easily adaptable to new finishes—never becoming obsolete.

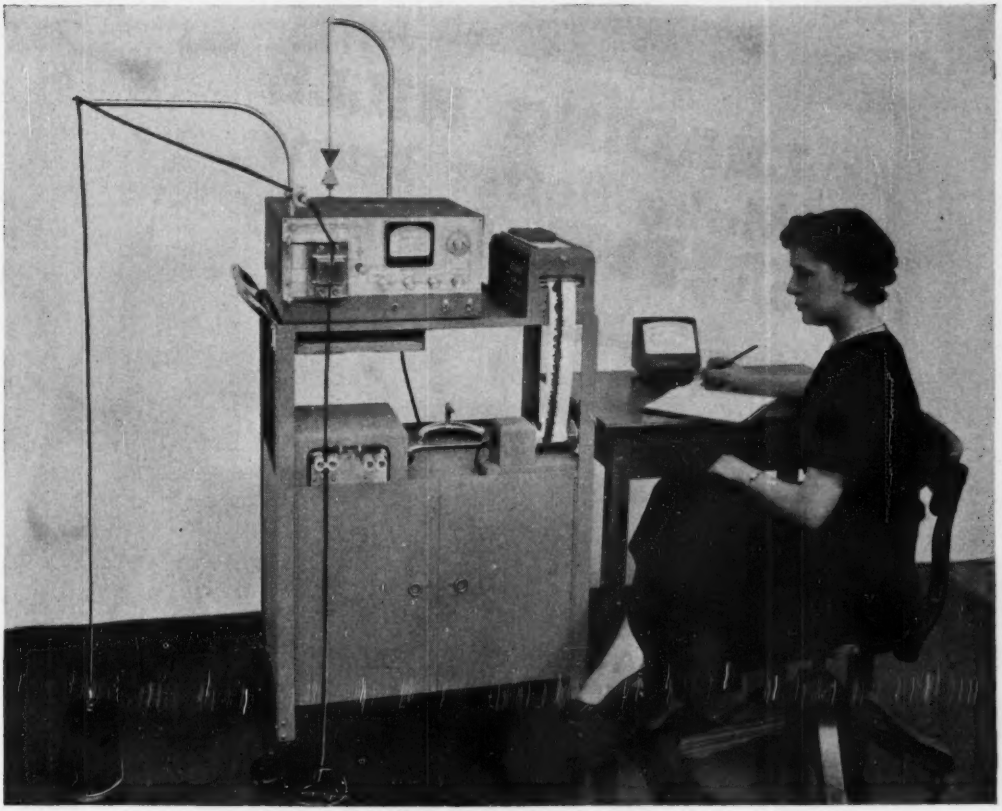
Proof of this great flexibility is illustrated here. Study and compare these drawings with your present equipment. These new Hinnekens' models are capable of handling the latest in textile finishing. Regardless of the material used, there is always a Boil-Off combination that can be engineered for your particular use.

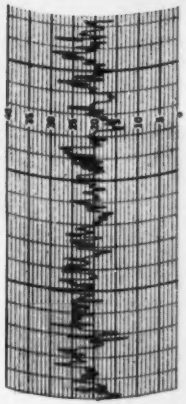
For modernizing of your present equipment or information on new units, call for the courteous service of the trained Hinnekens representative nearest you.

The HINNEKENS machine co. inc.

199 GODWIN AVENUE, PATERSON, N. J.

NEW ENGLAND REPRESENTATIVE	Peter Jaswell & Son 37 Brentwood Ave. Providence 8, R. I.
SOUTHERN REPRESENTATIVE	T. E. Lucas Assoc. Inc. P. O. Box 1696 Charlotte 1, N. Carolina
MEXICO AND SOUTH AMERICA	Meyer, Lyra & Co. Inc. 227-229 Fulton St. New York, New York





THE TEXTILE UNIFORMITY ANALYZER—originally designed by the Institute of Textile Technology—provides you with a production tool for checking and grading the uniformity of yarn, roving, or sliver . . . *at high speeds.*

The chart at left records the non-uniformity of a 25-count cotton yarn, checked at the rate of 300 feet a minute. The chart indicates 49.9% gross deviation from nominal weight per unit length. A complete answer, in writing—obtained in a hurry!

To an experienced operator, the graphs also point to the cause of non-uniformity, whether in the sliver, roving, or spinning stage. And in addition to the graph, the operator has a meter, which indicates average wool or cotton count or percentage non-uniformity.

The Analyzer is calibrated for cotton or wool, as specified, and can be adapted for other materials, including Nylon, rayon, other plastics. The separate heads for yarn, roving and sliver can be interchanged easily. The unit is complete, includes measuring heads for yarn, roving and sliver; yarn drive; handling fixtures.

Take the first step now for more efficient quality control—write for complete information. The Brush Development Company, Dept. T-15, 3405 Perkins Avenue, Cleveland 14, Ohio, U. S. A. *Canadian Representatives:* A.C. Wickman (Canada) Limited, P. O. Box 9, Station N, Toronto 14, Ontario.

THE *Brush* DEVELOPMENT COMPANY

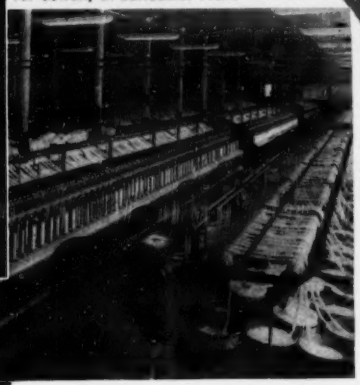
Put it in writing with a **BRUSH RECORDING ANALYZER**

PIEZOELECTRIC CRYSTALS AND CERAMICS • MAGNETIC RECORDING • ELECTROACOUSTICS • ULTRASONICS • INDUSTRIAL & RESEARCH INSTRUMENTS

LEADING MILLS Make Better Yarns on H&B Machinery

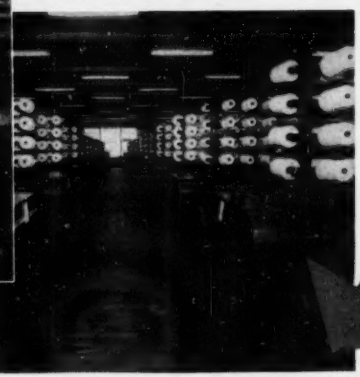
SAXON MILLS
H&B High Draft Slubbers
with scroll condenser
at Spartanburg, S. C.

SPRINGS COTTON MILLS
H&B Casablancas Hi-Draft Spinning
for cotton, at Lancaster Plant



DIXIE MERCERIZING CO.
H&B Twisters at
Chattanooga, Tenn.

GREER PLANT, Victor Monaghan Co., Div. of J. P. Stevens & Co., Inc.
H&B Casablancas S-3 Spinning for long staple synthetics



H&B AMERICAN MACHINE CO.

FACTORY, EXECUTIVE OFFICES AND EXPORT DIVISION • PAWTUCKET, R. I., U. S. A.
Branch Offices: Atlanta, Ga. — 815 Citizens and Southern National Bank Bldg.
Charlotte, N. C. — 523 West 4th Street
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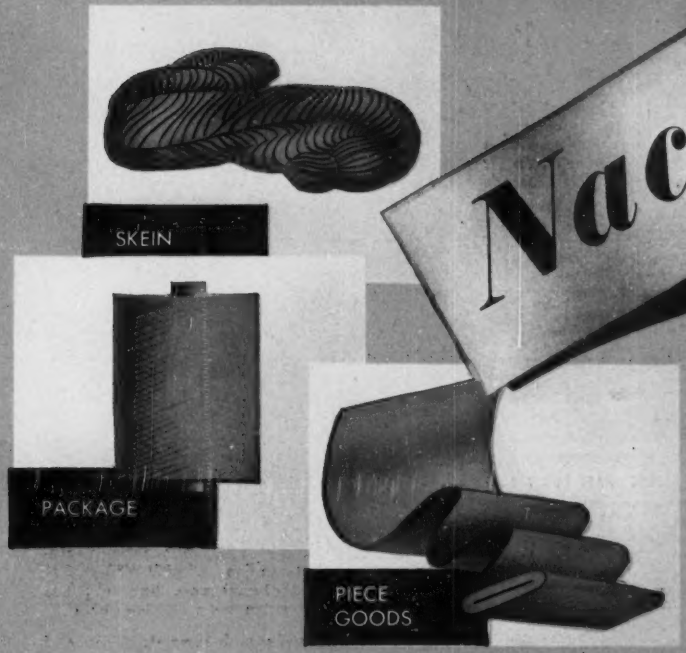
Builders of MODERN TEXTILE MACHINERY

cut cotton-dyeing costs with Nacconol®



use { 1 to 2 lb. of NACCONOL per 1000 lb. of cotton.

get {
Faster wetting out. Better dye penetration.
More level dyeing—fewer streaks in finished goods.
Easier, faster washing.

NACCONOL is the only low-priced, mass produced synthetic detergent made by a dyestuffs concern and meeting the quality standards of the dyestuffs industry. More NACCONOL has been used in the textile industry for more years than any other synthetic detergent. For predictable performance in wet-processing or finishing operations, order NACCONOL from our nearest office.

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N.Y. • BOwling Green 9-2240

Boston 14, Mass., 150 Causeway St.	CApitol 7-0400	Richmond 19, Va., 8 North Fifth St.	Richmond 3-1990
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Charlotte, 1 N.C., 201-203 West First St.	CHarlotte 3-9221	Toronto 2, Canada, 137-143 Wellington St. W.	Elgin 0469

*Reg. U. S. Pat. Off.

PICKING MOTION

HFL IMPROVED PICK SHAFT FOR COTTON LOOM

HFL IMPROVED PICK SHAFT FOR [illegible] LOOM

HFL IMPROVED PICK SHAFT FOR SILK LOOM

It isn't "LUCK" ...it's LEADERSHIP!

WITH A BACKGROUND OF 64 YEARS of continuous service to textile mills making just one line . . . IMPROVED LOOM PARTS . . . it isn't hard to see that much more than "luck" has been responsible for our outstanding and continuing success.

We have packed those 64 years with complete sincerity of purpose, devoting all our energies to the single objective of keeping those looms running.

To do this, our engineers have improved on design where structural weaknesses were apparent in original parts; we have used better materials, invariably, so that HFL IMPROVED LOOM PARTS have come to be the accepted standard by important mills everywhere.

Your Boss Weaver knows! Ask him what he thinks of HFL parts and HFL service. He'll tell you that

HFL IS THE MILL'S BEST FRIEND!

HFL IMPROVED LOOM PARTS cut operating costs. Your looms run smoother, weaving better fabric. They run with fewer stops. All this adds up to a higher quality of product at a substantially reduced cost.

HFL

IMPROVED LOOM PARTS

H. F. LIVERMORE CORPORATION

ESTABLISHED 1887

EXECUTIVE OFFICES & PLANT
BOSTON 34, MASS.

SOUTHERN DIVISION
GREENVILLE, S. C.

In easy reach — a high quality supply of card clothing and associated products! From Ashworth's 4 factories, we move supplies through distributing points in 7 strategic textile centers — Atlanta, Charlotte, Dallas, Fall River, Greenville, Philadelphia and Worcester.
To help keep your plant in operation at a high rate of efficiency, Ashworth also maintains 6 carefully located repair shops — set up to furnish prompt repair service, top flat reclothing, lickerin rewinding, etc.

Ask our nearest office to explain Ashworth Free Surveys. To increase your card efficiency, they're worth asking about — today.

PRODUCTS AND SERVICES

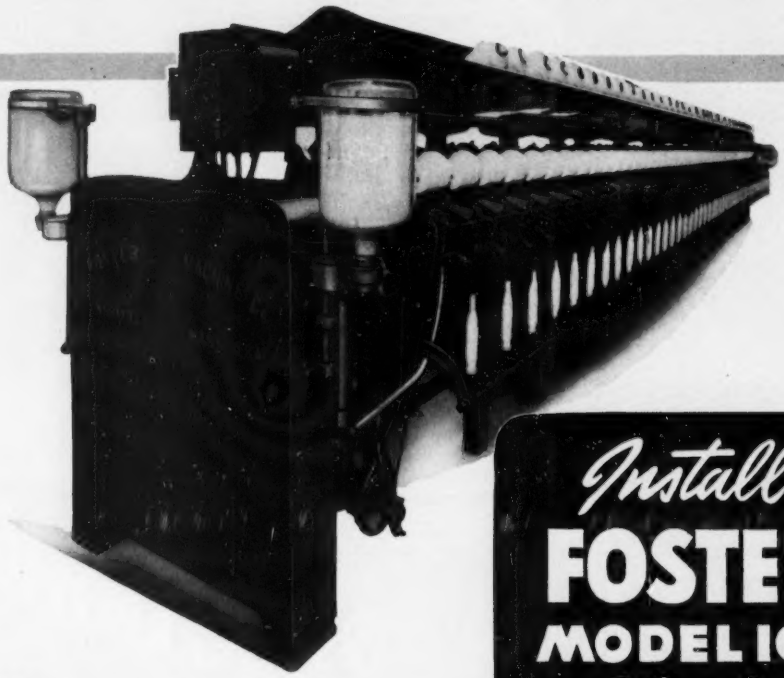
Card Clothing for Cotton, Wool, Worsted, Silk, Rayon and Asbestos Cards and for All Types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnett Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Top Flats Reclothed.

ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)

Fall River *†‡ Worcester *‡ Philadelphia*†‡ Atlanta†‡
Greenville*†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)
Factory* Repair Shop† Distributing Point‡

HOW TO INCREASE YOUR YARN SOURCES



Install FOSTER MODEL 102 *Winders*

Bulletin A-95 on request

FOSTER MACHINE COMPANY
WESTFIELD, MASS.

SOUTHERN OFFICE, JOHNSTON BLDG., CHARLOTTE, N. C.
CANADIAN REP., ROSS-WHITEHEAD & CO., LTD., 1475 MOUNTAIN ST., WEST, MONTREAL, QUE.

When using Foster Model 102 Winders it is possible to rewind when necessary and get INSPECTED yarn and perfect cones. This will automatically increase the number of your possible yarn sources, for you can then accept yarn on a variety of put-ups,—warper cones, parallel tubes, or dye packages, as well as knitting cones,—or even poorly wound cones, since you can rewind them.

Increased production at the knitting machine will also follow, not only because of inspected yarn, but also because of proper winding,—including proper angle of wind, which is important to good winding. The angle should and can be varied for different types and counts to avoid bulging cones and to assure best delivery on the knitting machine.

Foster Model 102 Winders are highly flexible. They will handle a wide range of counts and any type of staple fibre; also emulsion treated yarns. In fact the machine is often equipped with an emulsion attachment. Nine different angles of wind from 9° to 18° are also obtainable simply by changing four small gears in the head end of the machine.

Foster Model 102
The Flexible Winder

Bogged down by slow collections?

The slow-down in your collections, and many requests for dating, mean increased credit risks, more credit handling... and financial problems.

With sales lagging due to heavy retail inventories, you may be looking for new customers. But new customers mean still greater credit problems, and strain on your working capital.

We take the burden of credit handling and the risk of credit losses off your shoulders. And, by speeding the turnover of your present working capital, we help you keep old friends and make new ones.

WILLIAM ISELIN & CO., INC.

357 Fourth Avenue, New York 10, N. Y. • 200 Keeler Building, Grand Rapids 2, Mich.

FOUNDED IN 1808

Ste-Hed-Co and Southern

a story of achievement!

A FOUNDATION SOLID AS GIBRALTAR

TO the seasoned veterans of the Textile Industry, STE-HED-CO Products need no introduction. These products have long played a leading part in the scientific advance and development of weaving—they have been associated with every modern weaving accomplishment for the past half century.

To the younger generation, the new faces in the industry, the Quality of STE-HED-CO and SOUTHERN Products will be a revelation. This QUALITY immediately reflects itself in product performance . . . and PRODUCT PERFORMANCE explains the enviable world-wide reputation STE-HED-CO and SOUTHERN Products enjoy.

STEEL HEDDLE leadership has been constant over the years. It began in 1898, when in a small plant on the outskirts of Philadelphia, Pa., the company foundling fathers pledged themselves to obtain through research and experience, the knowledge to manufacture ONLY products of superior quality to assure more efficient production at a more economical cost. A tradition adhered to during STE-HED-CO and SOUTHERN'S entire business history.

From its modest beginning, when the now famous "FLAT STEEL HEDDLE" was first introduced to replace the then universally popular Cotton Harness and Round Wire Heddle, the company has pioneered in every stage of weaving and has consistently inaugurated new and better methods for handling yarn in its process before weaving.

SOUTHERN SHUTTLES, organized in 1931 to round out a complete line of TEXTILE ACCESSORIES, is a Division of the Steel Heddle Mfg. Co. This Division, housed in its own air-conditioned plant, is designed, constructed, specially equipped and fully staffed to exclusively produce the world's finest and most durable Shuttles. And . . . Southern Shuttles has sponsored and pioneered all major shuttle improvements.

STE-HED-CO and *SOUTHERN SERVICE* has always been first. A competent engineering staff supplemented with practical mill men do *all* the mill contact work. These trained experts are conversant with mill problems. They appreciate new applications and understand what successful product performance means.

Today, possessing over 200 U.S. Patent grants, and with five large plants in the U.S.A. and Canada, the company is justly proud of its many contributions to the industry.

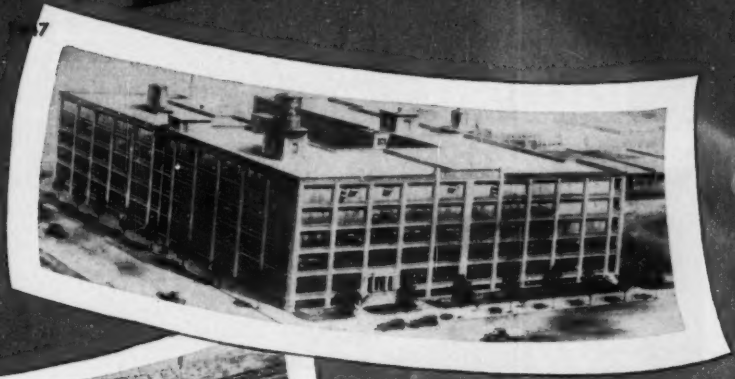
Space won't permit listing them all, but hereunder are just a few STE-HED-CO and SOUTHERN achievements . . . Their contributions to Textiles.

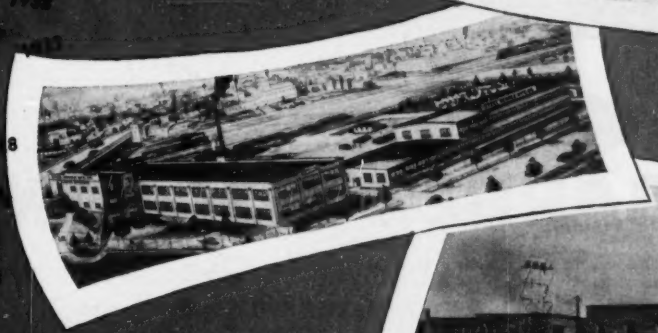
SLIDE HOOK FRAMES • DOUBLE BAR FRAMES • ALUMINUM FRAMES • FLAT STEEL DOUP HEDDLES • DUPLEX HEDDLES
TEMPERED STEEL HEDDLES FOR WIRE WEAVING • STAINLESS STEEL HEDDLES FOR WEAVING ARTIFICIAL YARNS
DRAWTEX HEDDLES & FRAMES SUITABLE FOR BARBER-COLMAN DRAWING-IN MACHINES • A VARIETY OF NEW WEAVING & WARPING REEDS
APPLIANCES FOR WARPING & SLASHING • A NEW AND SPECIAL TYPE OF HARD CHROME PLATING • TEMPERED DOGWOOD SHUTTLES
PATENTED SHUTTLE EYES FOR EVERY FABRIC • HIGH SPEED SHUTTLE SPRINGS • MAGNUM TIP CONSTRUCTION • STEHIDE & DUROWEAR SHUTTLES

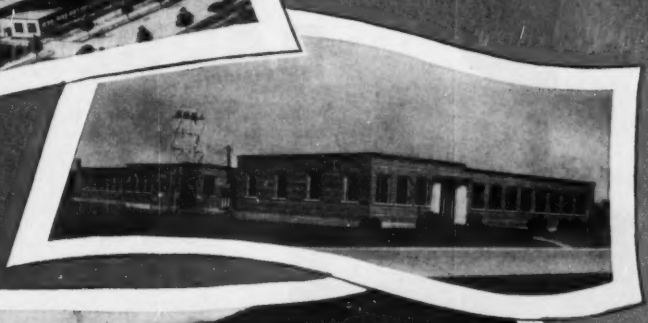
1898

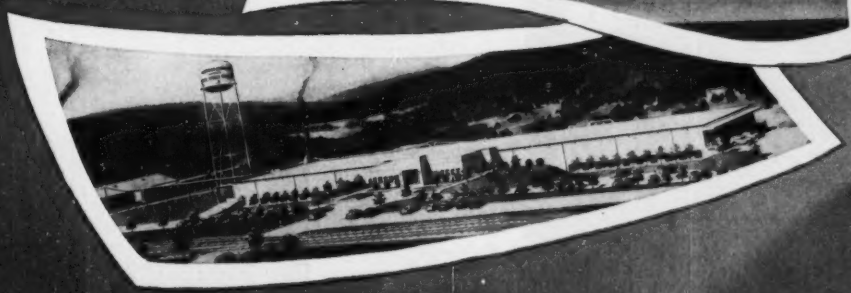
1899 1900 1901 1902 1903 1904 1907 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 192 192

1952









STEEL HEDDLE MFG. CO.

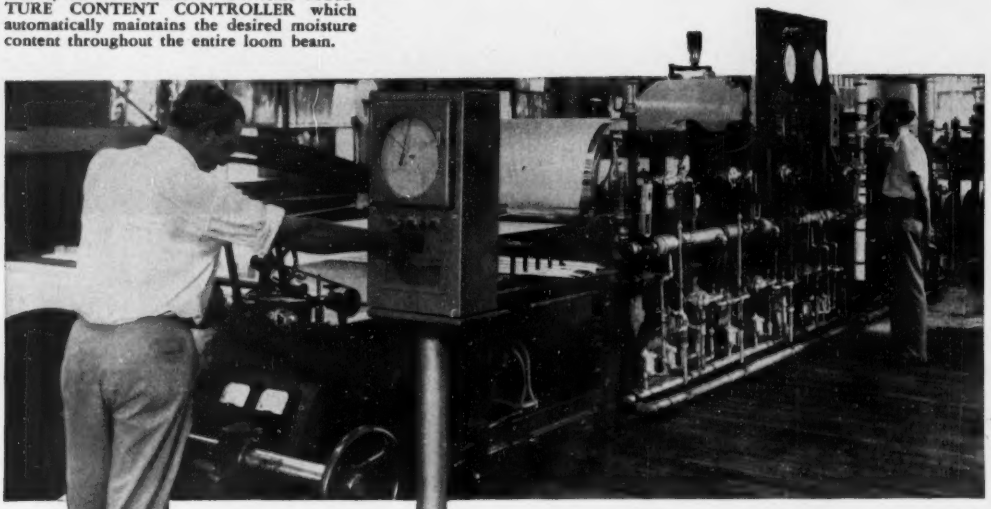
2100 W. ALLEGHENY AVE. • PHILADELPHIA 32, PA.

Other Plants and Branch Offices: Greenville, S. C. • Atlanta, Ga. • Greensboro, N. C. • Providence, R. I.

SOUTHERN SHUTTLES . . . Parts Plant . . . Greenville, S. C. A Division of STEEL HEDDLE MFG. CO.

STEEL HEDDLE COMPANY of CANADA, LIMITED 310 St. Hubert Street • Granby, Quebec, Can.

Below, the Barber-Colman *Electronic* MOISTURE CONTENT CONTROLLER which automatically maintains the desired moisture content throughout the entire loom beam.



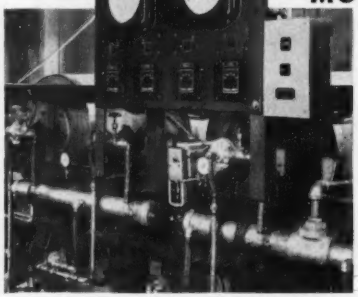
Complete BARBER-COLMAN *Slasher Room Controls*

AT U. S. RUBBER COMPANY, WINNSBORO MILLS

MOISTURE CONTENT • CYLINDER TEMPERATURE

SIZE LEVEL • SIZE COOKING

All Automatically Controlled



Above, the Barber-Colman CYLINDER TEMPERATURE CONTROLLER panel which automatically operates steam valves to maintain desired temperatures in the cylinders. The smaller panel is the SIZE LEVEL CONTROLLER which automatically holds the specified level of size in the size box.

Barber-Colman Company, with years of experience in textile processes, provides complete automatic control equipment that will help Lower Costs, Increase Production, and Improve Products. *See your Barber-Colman representative for details.*

Right, the Barber-Colman TEMCHROM SIZE COOKING CONTROLLER which automatically governs the selected sequence of cooking and holding operations in the size preparation tanks.

BARBER COLMAN

BARBER-COLMAN COMPANY, Rockford, Illinois

Boston, Mass. • Greenville, S. C. • Atlanta, Ga. • Greensboro, N. C.

TROPIC MINT—hit of the Paris openings, choice of the Textile Color Card Association as an important spring green—is particularly smart with tone-on-tones, tortoise shell or rich spicy shades like *Benedictine*.

SANDOZ FORECASTS

Tropic Mint

a sun-kissed green for spring

To produce *Tropic Mint* exactly on woolens, Sandoz suggests a combination of probably the brightest *fast* blue on the market, the new Brilliant Alizarine Light Blue 3F Pat, and Xylene Light Yellow 2G. These dyestuffs are very level dyeing . . . completely compatible in the dye bath . . . have extreme light fastness when used in combination or separately.

For spring rayons and cottons...

Probably the brightest *fast* blue on the market, the new Sandoz dye, BRILLIANT ALIZARINE LIGHT BLUE 3F PAT, is well adapted to dyeing baby blues and other clear, light shades on yarn or piece goods.

SANDOZ

thinks ahead with textiles

SANDOZ

To Insure WASHABILITY

in direct-dyed rayon and cotton fabrics

use SANDOFIX·WE

SANDOFIX·WE insures clear, wash-fast colors. It is the outstanding assistant for producing saleable rayon sports fabrics at an attractive cost ★ Colors will not migrate in direct-dyed rayon and cotton when fixed with an after-treatment of **SANDOFIX·WE** ★ It increases fastness to washing and perspiration . . . makes fabrics more resistant to hot-wet pressing. **SANDOFIX·WE** also preserves acetate white effects ★ **SANDOFIX·WE** prevents "marking-off" . . . assures clearness of design in printing. Reliable results are obtained by using **SANDOFIX·WE** during the rinsing operation either in rope form or in the open width soaper ★ Write Sandoz for detailed information.

SANDOZ

thinks ahead with textiles

SANDOZ

For forecast colors as well as perennial favorites—select from Sandoz' line of chrome, acid, direct dyes and auxiliary chemicals for both natural and synthetic fibers.

SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y. Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto.
Other branches at Providence, Fairlawn, N. J., and Montreal.

Wool or no wool...

civilian and military clothing needs must be filled!

Suitable replacement fabrics for scarce, expensive wool *must* be found to clothe the average family—and to meet certain requirements of the Armed Services.

The Warner & Swasey-Pacific Converter and Pin Drafter help meet this demand for top quality fabrics by supplying synthetic sliver—or accurate blends of wool and synthetic sliver—in volumes to meet today's huge requirements. A wide variety of fabrics can be made from these blends—materials that are stronger, longer lasting, shrink resistant, and less expensive.

WARNER & SWASEY-PACIFIC CONVERTER

- Eliminates opening, mixing, carding, and combing operations of cut staple
- Cuts continuous tow to desired lengths
- Exact percentages of blends
- Cuts costs on machines, labor, maintenance
- Less change-over time

WARNER & SWASEY PIN DRAFTER

- Eliminates costly steps in preparation of sliver for spinning
- Better, more evenly blended sliver in greater volume
- Less fly waste
- Uses either can sliver or ball top
- Applicable to various systems

Used separately, or in combination, these machines cut costs by eliminating many operations necessary in conventional systems of preparing sliver for spinning. Call in our Field Engineer in your territory for complete details. He'll be glad to show you how they can add new profits to *your* operation.

BRANCH OFFICES:
61 Rivulet St., North Uxbridge, Mass. • 6910 Market Street, Philadelphia, Pa. • Candler Building, Atlanta, Ga.

TEXTILE MACHINERY DIVISION

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS . . . WITH A WARNER & SWASEY

For further information use Helpful Booklet Card—TEXTILE INDUSTRIES • DECEMBER, 1951

Kidde Dry Chemical Extinguishers shield the operator from the flames with a heat-absorbent curtain of fine powder. The Kidde 20 pounder covers 36 square feet—44% MORE AREA than required by Factory Mutual Laboratories. The Kidde 30 pounder covers 48 square feet—as compared to the 35 square feet required by Factory Mutuals.

These Kidde extinguishers drive the dry chemical with enough force to overcome updrafts caused by the heat of the fire. The special Diffuser Horn applies the powder in a cloud-like pattern—helping to eliminate the splash of flammable liquids and offering the greatest protection to the operator.

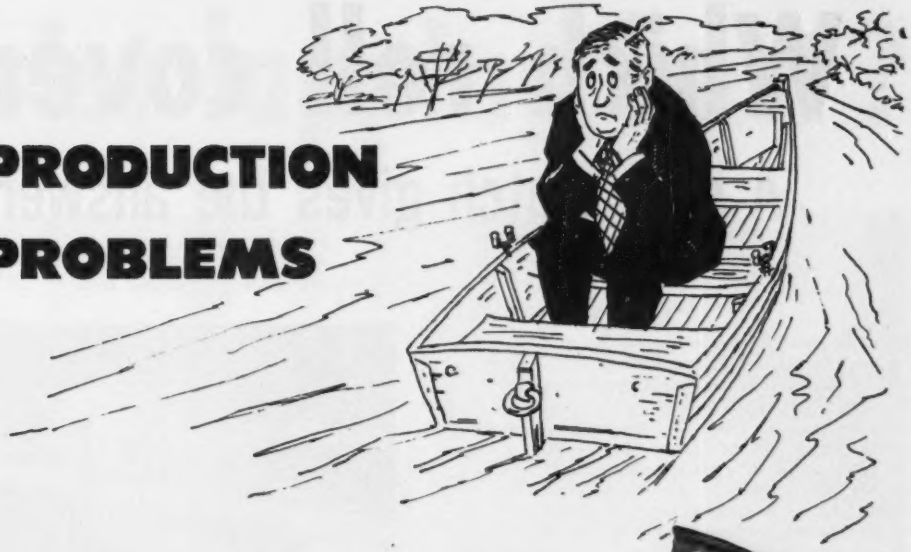
For fires in textiles, flammable liquids and live electrical equipment Kidde Dry Chemical Extinguishers are highly effective. Write for information on portable or wheeled units.

Kidde

The word "Kidde" and the Kidde seal are trademarks of Walter Kidde & Company, Inc.

Walter Kidde & Company, Inc., 1290 Main Street, Belleville 9, N. J.

Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.



PRODUCTION PROBLEMS

got you up a creek?

● The function of our Technical Sales Department is to help solve various production problems in the field. These men are constantly working with new products and techniques—perhaps this experience would be helpful in smoothing out production sore spots in your operation.

Our basic, continuing research in starch chemistry is unsurpassed . . . under the direction of the foremost research men in this field.

Make the most of these facilities . . . no obligation, of course.

For uniform quality products...for a reliable source of supply. . . depend on Corn Products Refining Company.

write to

CORN PRODUCTS REFINING CO.

17 Battery Place, New York 4, N. Y.

Globe and Eagle are registered trade-marks of Corn Products Refining Company, New York, N. Y.

Which roll covers

A stop watch gives the answer

Here's the scientific reason why

The main point in measuring the lap resistance of a roll cover is this: Does it consistently let a broken end run free long enough to go down onto the scavenger roll?

Textile research men at Armstrong's have worked out a way to answer this quickly. It's a simple test that shows in minutes what it would normally take months to prove in the mill. Test results stand up in practice, too. Cots which work well on this test, perform equally well in the mill.

Here's how this test works. First, the test cot is put on a frame section from which scavenger roll and clearer board have been removed. The frame is then speeded up to many times normal.

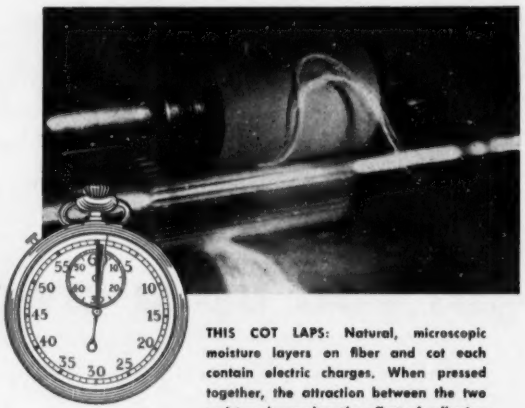
Next, the technician breaks an end and checks with his stop watch how long the cover lets the end run free. The longer the end runs free, clearly, the better chance it has in the mill of dropping to the scavenger roll, and the better the lap resistance of the cot.

In thousands of such tests against the stop watch, Armstrong's Accotex Covers consistently prove that they have more lap resistance than any other cover tested.

Why? Because Accotex Covers are made with an exclusive formula. Each Accotex Cover contains "electrolytes" . . . special ingredients that eliminate one of the principle causes of lapping . . . the attraction between fiber and roll cover.

Armstrong makes a complete line of these patented lap-resistant covers. Whether you spin cotton, wool, synthetics, or blends, your Armstrong representative can suggest the right Accotex Cover for your work.

Call him today or write Armstrong Cork Company Textile Products Department, 3612 Arch Street, Lancaster, Pennsylvania. Accotex Cots are available for export.



THIS COT LAPS: Natural, microscopic moisture layers on fiber and cot each contain electric charges. When pressed together, the attraction between the two moisture layers has the effect of adhering fibers to cot, causing ends to lap up.

THIS COT RESISTS LAPPING: Certain electrolytes put in patented Accotex® Covers neutralize electric charges in moisture layer on the cot. This destroys the adhesive effect of the two moisture layers and lets broken ends run free.

ARMSTRONG'S ACCOTEX COTS

resist lapping best?

WHEN AN END BREAKS, will the cover let the yarn run free long enough for it to go down on the scavenger roll? Tests in our laboratories, backed by mill experience, show that many covers will not. They lap up within a split second after an end breaks, before the yarn can get to the scavenger roll. Armstrong's Accotex Cots consistently let broken yarn ends run longer than other covers tested.

WHEN MANAGEMENT AND

PRODUCTION RECOGNIZE THE NEED

FOR A VERSATILE MACHINE

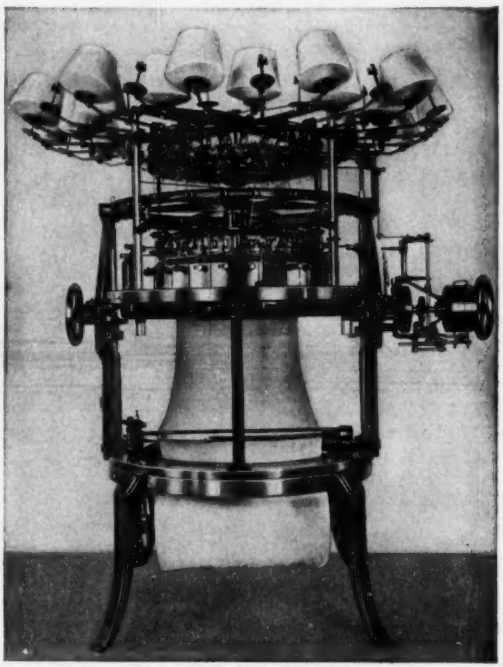
This is It!

WILDMAN

INTERLOCK MACHINE

for

- **OUTERWEAR**
- **UNDERWEAR**
- **DRESS FABRICS**
- **SPORTSWEAR**



Here's a performance package hard to beat! . . . This machine is not only versatile in the handling of many types of fabrics. In addition, its special size frame is built to handle exceptionally wide fabrics. It's available in popular sizes 26" and 30" and is furnished in all cuts up to 24 needles per inch.

INQUIRE TODAY!

WILDMAN MFG. CO., Norristown, Pa.

A FAST BLUE FOR VISCOSE

Pontamine* Fast Blue CPL is a direct-dyeing, greenish-blue recommended for its good light and washing fastness on viscose-process rayon when after-treated with resin finishes. It is of particular interest for dyeing rayon dress goods, sportswear, suitings, drapery and upholstery materials.

It has excellent hot solubility, penetrates and levels well. Recommended for use in all types of dyeing equipment. For information on this new direct dye—or for help on any coloring problem—consult our Technical Staff.

E. I. du Pont de Nemours & Co. (Inc.),
Dyestuffs Division,
Wilmington 98, Delaware.

*REG. U. S. PAT. OFF.

Du Pont Dyestuffs

DU PONT
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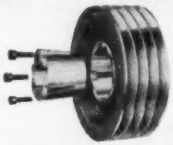
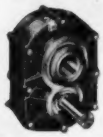
BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*

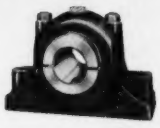
IF IT'S DODGE -IT'S DEPENDABLE!



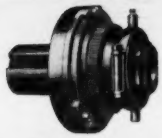
TAPER-LOCK SHEAVES: A Dodge "first." Patented. (Taper-Lock is the world's simplest mechanism for mounting wheels to shafts.) 476 stock sizes in A, B, C and D grooves.



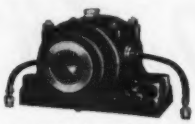
TORQUE-ARM SPEED REDUCERS: America's most complete line of shaft mounted speed reducers. Capacities from 1 to 27 h.p. Output speeds from 12 to 330 r.p.m.



DODGE-TIMKEN BEARINGS: Another Dodge "first." Mounted units, proved in millions of industry's toughest jobs. Four types to choose from. Shaft sizes from 1-3/16" to 8".



ROLLING GRIP FRICTION CLUTCHES: Another Dodge "first." No toggles. Flexible, smooth. Bolted plate and gear tooth plate. 1.3 to 21.2 h.p. at 100 r.p.m.



SLEEVOIL BEARINGS: Another Dodge "first." Precision-built, quiet, dependable — "tops" for fan and blower service. Sizes 1-7/16" to 8" in both plain and water cooled types.

SOLID STEEL CONVEYOR PULLEYS: Maximum strength, minimum weight. *Modern* pulleys with interchangeable hubs that cut installation cost. Diameters 6" to 8'. All face widths.

DODGE V-BELTS: Concave sidewall design. High-strength cord section. Factory measured to insure matched drives with Dodge precision-built sheaves —for dependable performance.

DODGE TAKE-UPS: Modern, rugged, dependable. Roller bearing (illustrated), ball bearing and babbitted. Shaft sizes from 3/4" to 4". Travel from 4" to 36".

SPECIALISTS IN POWER TRANSMISSION MACHINERY FOR 73 YEARS

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NOTED THROUGHOUT THE WORLD FOR HIGH QUALITY, PRECISION MANUFACTURE

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MANUFACTURERS OF A BROAD LINE OF MECHANICAL POWER TRANSMISSION MACHINERY

●

ORIGINATORS OF NEW AND BETTER PRODUCTS FOR THE MECHANICAL TRANSMISSION OF POWER

●

USED CONFIDENTLY WHERE THE GOING IS TOUGHEST

DODGE MANUFACTURING CORPORATION, 3500 Union St., Mishawaka, Ind.

CALL THE TRANSMISSIONEER: Most Dodge products are normally available from distributors' stocks—in your territory—when you need them. For information on the newest and best methods of mechanical power transmission, call the Dodge Transmissioneer, graduate of the Dodge factory course. He is your local Dodge Distributor. Look for his name under "Power Transmission Equipment" in your local classified telephone directory.

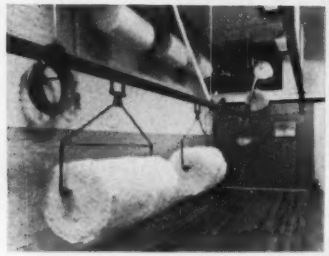
PILLOW BLOCKS: Roller Bearing, Ball Bearing, Babbitted. **FLANGE BEARINGS:** Roller, Ball, Babbitted. **HANGER BEARINGS:** Roller, Ball, Babbitted. **TAKE-UPS:** Roller Bearing, Ball Bearing, Babbitted. **BASE PLATES. FLOOR STANDS. DROP HANGERS. V-BELT SHEAVES:** Both TAPER-LOCK and Bored-to-Shaft-Size. **BELTS:** Industrial and FHP V-Belts and Flex-Link Belting. **SPEED REDUCERS:** TORQUE-ARM Shaft Mounted Speed Reducers. **CLUTCHES, FRICTION:** Rolling Grip, Diamond D and Solid Types. **COUPLINGS:** TAPER-LOCK Flexible, TAPER-LOCK Rigid and Flange Types. **SAFETY SET COLLARS. PULLEYS:** Steel Split Transmission and Solid Steel Conveyor Pulleys. Rubber Lagging. **VISES:** SLIDE-SET Machinist's...FOR COMPLETE LINE, TYPES AND SIZES, WRITE FOR BULLETINS AND 224-PAGE CATALOG.

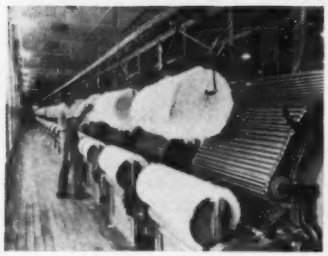
DODGE

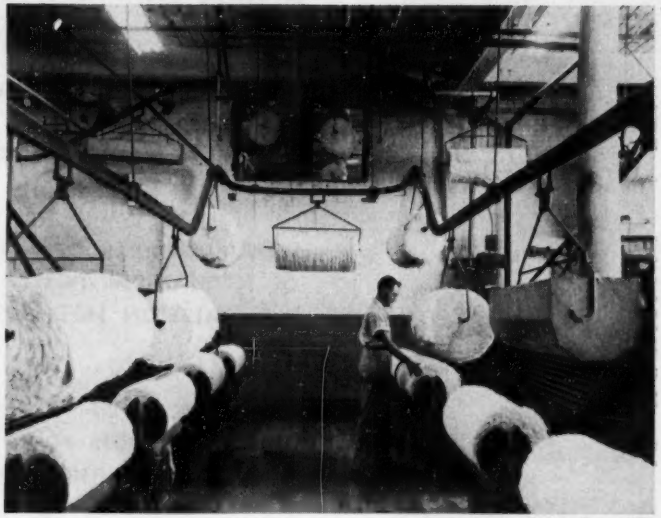
of Mishawaka, Ind.

"First in Power Transmission Machinery!"

RAISE production..LOWER costs







Photos: Courtesy Springs Cotton Mills

with "Zig-Zag" Continuous Power Conveyors

Here you see how "Zig-Zag" solves a complex handling problem in the Springs Cotton Mills at Lancaster, South Carolina. In almost every imaginable industry, R-W "Zig-Zag" Conveyors are serving production and processing lines—increasing efficiency, cutting costs. Specifically designed to carry light loads through confined or crowded areas, "Zig-Zag" is adaptable to almost every plant condition or layout. And the savings effected with R-W "Zig-Zag" Conveyors are so substantial, the equipment pays for itself quickly—in most cases in less than a year! For further information, call, write, or wire our nearest office.

ENGINEERED FOR ECONOMY AND FLEXIBILITY

- Horizontal and vertical units alternate in a continuous chain traveling through special steel tubing.
- Complete flexibility for installation in any plant. Easily installed, easily changeable to conform to plant alterations.
- SAFE—all moving parts are fully enclosed.
- Low first costs. Low Power Factor.
- Standard horizontal or vertical curves—two-foot radius.

1880 RICHARDS WILCOX R-W AURORA Reg. U. S. Pat. Off. 1951

OVER 71 YEARS

Richards-Wilcox Mfg. Co.

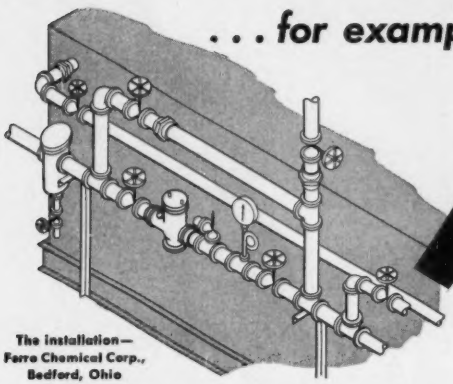
"A HANGER FOR ANY DOOR THAT SLIDES"

AURORA, ILLINOIS, U.S.A. *Branches in all principal cities*

SLIDING DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT
INDUSTRIAL CONVEYORS & CRANES • SCHOOL WARDROBES & PARTITIONS
ELEVATOR DOOR OPERATING EQUIPMENT

for outstanding service

on Steam to Drying Ovens . . . for example



The installation—
Ferro Chemical Corp.,
Bedford, Ohio

PROBLEM: To maintain automatically, within close limits, uniform reduced steam pressure from supply line to battery of two drying ovens controlled by individual thermostatic valves.

WORKING CONDITIONS: Initial steam pressure of 70 psi to be reduced to 13 psi, and maintained without significant fluctuation whether one, both, or neither of the ovens is being operated.

SOLUTION TO PROBLEM: One No. 960 Crane Brass Pressure Regulator, properly selected for capacity required, and with adequate condensate drainage provided.

RESULT: For more than 5 years, without interruption and with no more than routine maintenance, the Crane No. 960 Regulator has given complete satisfaction. Operating like new, and since all wearing parts are renewable, it will virtually never wear out. User remarks on unusual simplicity of adjustment.

Another typical case history, demonstrating the bigger value and lower ultimate cost of Crane Quality Valves. And why . . . More CRANE VALVES are used than any other make!

. . . Install Dependable Quality CRANE VALVES

No. 960 Crane Brass Pressure Regulator for steam or air. Literature on request through your Crane Branch or Crane Wholesaler.

CRANE CO.

General Offices:
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Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

Fieldcrest Mill Cuts Wear, Ends Lubrication Problems

In Zion, Ill., Fieldcrest Mills, a Division of Marshall Field & Co., makes fine lace curtains and table cloths in cotton, nylon and orlon. Their lace weaving machines came from Nottingham, England, some as much as 50 years ago. With parts replacements so hard, if not impossible, to get, Fieldcrest felt it vital to get the finest possible lubrication protection.

The mill invited Sinclair engineers to study its problems. Sinclair drew up a complete lubrication program, calling for several specialized Sinclair textile lubricants.

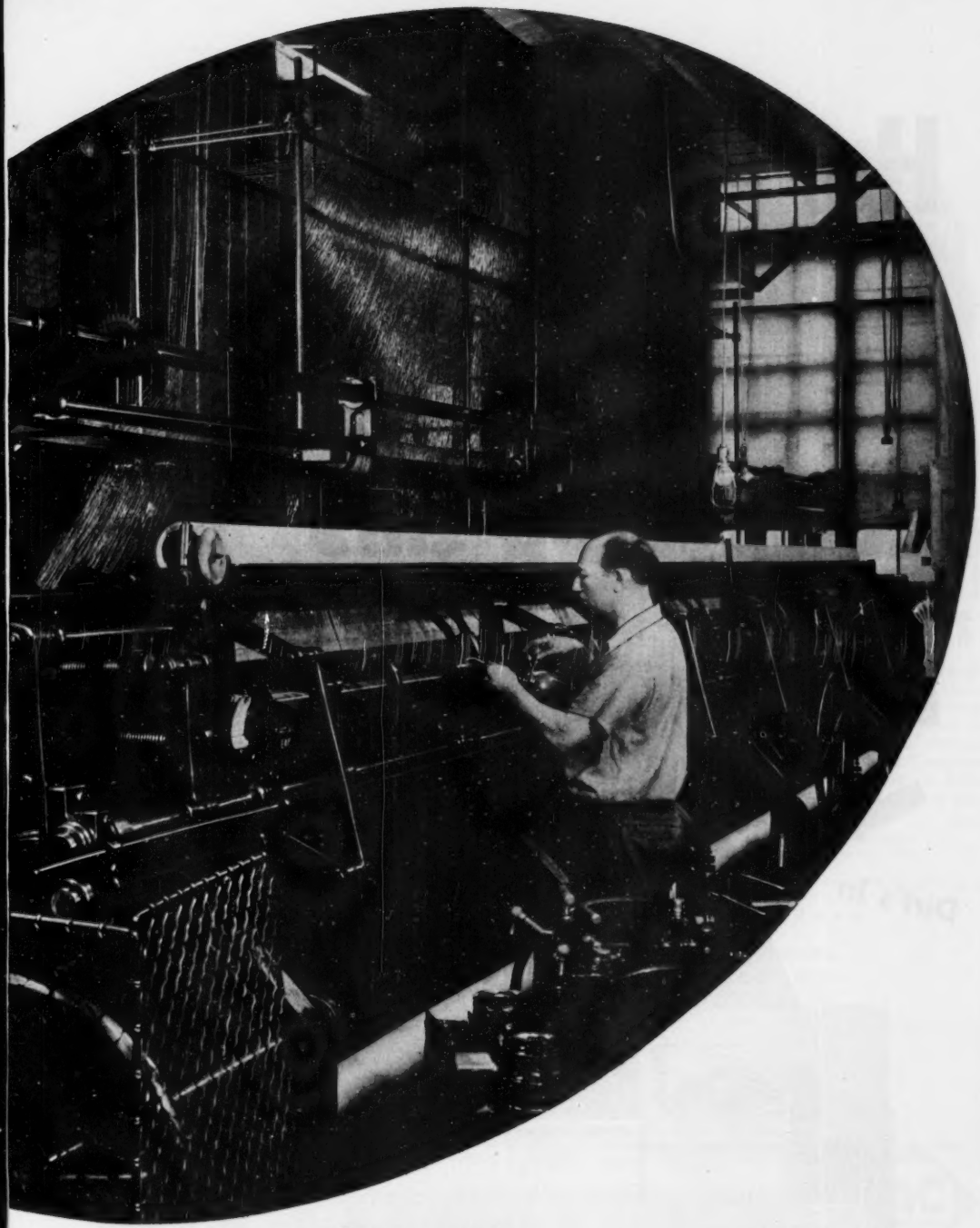
Fieldcrest followed this program to the letter. It now reports the lubrication has materially cut wear on the weaving machines and reduced breakdowns and related headaches in the bleaching and finishing rooms. Hook wear and burning in the sewing machines are no longer a problem.

Perhaps Sinclair engineers and Sinclair lubricants can help cut wear and replacements in *your* mill. Why not investigate?

A lace weaving machine in Fieldcrest Mills, where Sinclair Lubricants are saving wear. Lubricants include Lily White Oil C, Valve Oil Light, No Drip #12, Bearing Grease AF #1, Shamrock® F, Rubilene® Light.

Sinclair Textile Lubricants

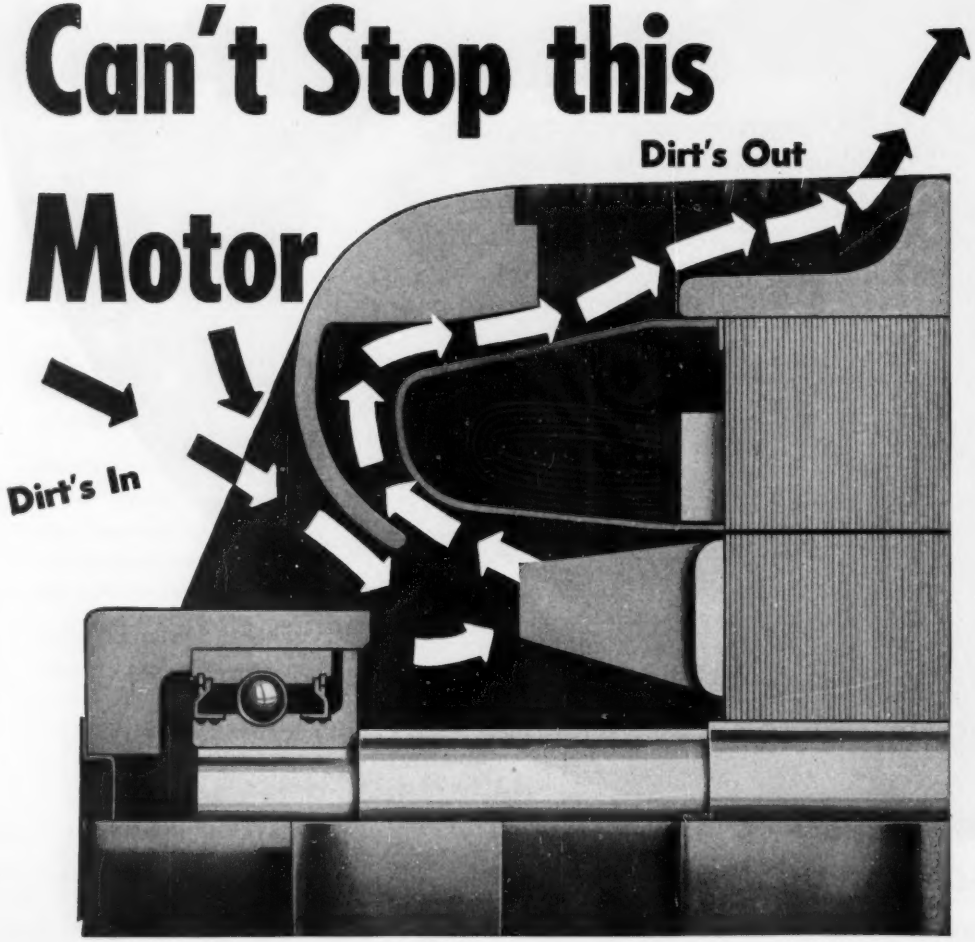
FOR LUBRICATION COUNSEL, SEE YOUR NEAREST SINCLAIR REPRESENTATIVE OR WRITE TO SINCLAIR REFINING



save wear, replacements

COMPANY, 600 FIFTH AVENUE, NEW YORK 20, N. Y.

Here's Why *Dirt and Lint* Can't Stop this Motor



Quick-Clean TEXTILE MOTOR

WIDE OPEN DESIGN AND POWERFUL FANS SWEEP LINT AND DIRT RIGHT OUT OF *Quick-Clean* MOTOR!

YOU HAVE NO MOTOR PROBLEM from lint-laden atmospheres when you use *Quick-Clean* textile motors. *Quick-Clean* motors have wide open passages for cooling air and powerful fans to sweep lint and dirt right out of the motor. Inside surfaces are smooth and hard so lint cannot lodge anywhere. Air passages are shaped for smooth air flow.

Quick-Clean motors also save you money with sealed bearings which eliminate usual expensive bearing maintenance procedures. Grease or oil cannot leak from the bearings to soil materials or gather lint and dirt. Lint and dirt cannot enter the bearing. Ask your nearest Allis-Chalmers Sales Office about the *Quick-Clean* textile motor Or write for the bulletin shown below which describes it completely.

MATCH QUICK-CLEAN MOTORS WITH A-C STARTERS!

This control was developed for dependable, safe starting of *Quick-Clean* motors. Other Allis-Chalmers motor control will give you dependable operation of all electrical equipment in your plant. Competent application engineers are always available through your nearby Allis-Chalmers Sales Office. A-3471

Allis-Chalmers
Milwaukee 1, Wis.

Quick-Clean, Texrope and Vari-Pitch are Allis-Chalmers trademarks.

Send for Free Engineering Literature

Quick-Clean Textile Motors	51B6055	Dielectric Heater	15B6431
Allis-Chalmers Loom Motors	51B7111	Power Generating Equipment, Transformers, Circuit Breakers, Power Distribution Equipment	25B6150
Texrope Drives	20B6051		
Vari-Pitch Automatic Sheave	20B7223		

COMPLETE SERVICE — from power line to machine

ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry

ask that nearby mill

about GARDNER-DENVER RX COMPRESSORS

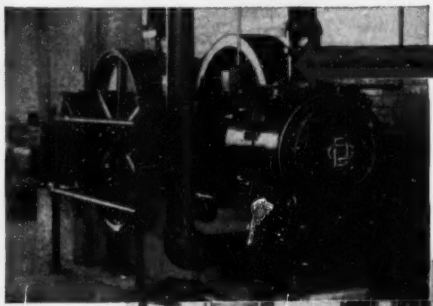
Your Gardner-Denver field engineer will gladly tell you about RX textile mill installations in your area. The chances are there's one nearby — where you can learn firsthand, for example

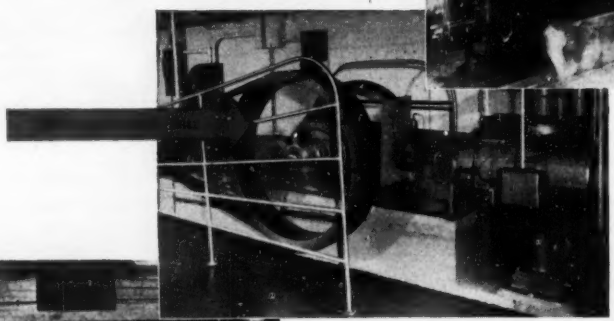
— that RX Compressors are rated highly efficient — because air flows freely through their large valve and port areas.

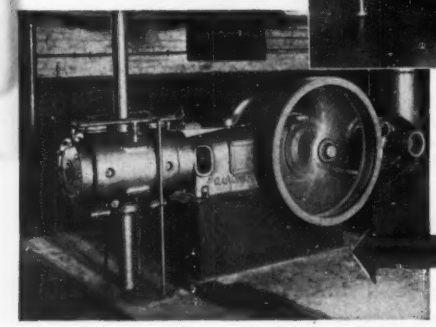
— that they're often called power-misers — thanks to the automatic control that limits power consumption to air demand.

— that maintenance records prove RX Compressors are always ready for round-the-clock service when production demands are high.

Write us for complete information.







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Gardner-Denver Company, Quincy, Illinois

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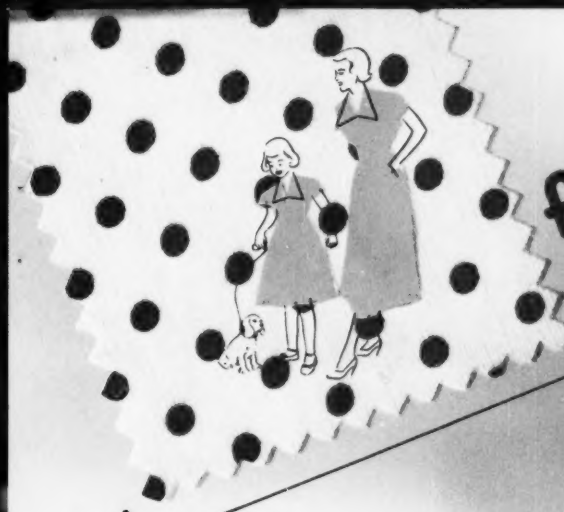


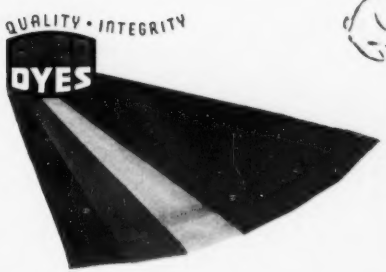
AHCOVAT DYES

Quality and integrity . . . the maximum of each goes into every pound of AHCOVAT DYES. The natural result: vat dye performance you can always depend upon!

AHCOVAT PINK RL

For printing and dyeing on dress goods, draperies and upholstery fabrics, this AHCOVAT dye gives extremely high light fastness and brightness of shades.

Ask for complete technical information and shade card.



ARNOLD, HOFFMAN PROVIDENCE RHODE ISLAND

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London, England

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For your convenience....

. . . . each year, in December, TEXTILE INDUSTRIES publishes an index of the articles that appeared in the preceding twelve months. This index, originated by TEXTILE INDUSTRIES for all textile men, is an extra service, planned to help you get more use from your subscription. Subject headings and special coding identify for you those articles and items that have extra significance to you in your work.

As you know, year in and year out, TEXTILE INDUSTRIES devotes its pages to the informational and educational needs of the executives and supervisory men in the mills. The success with which the editorial program has been carried out is shown in the most recent readership survey which gave TEXTILE INDUSTRIES an outstanding vote as the magazine most useful to mill men throughout the industry.

So—

SAVE YOUR COPY OF THE

TEXTILE INDUSTRIES

INDEX OF ARTICLES FOR 1951

—it is loosely inserted in this issue of the magazine.

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Textile Industries

806 Peachtree Street, N. E., Atlanta 5, Ga.

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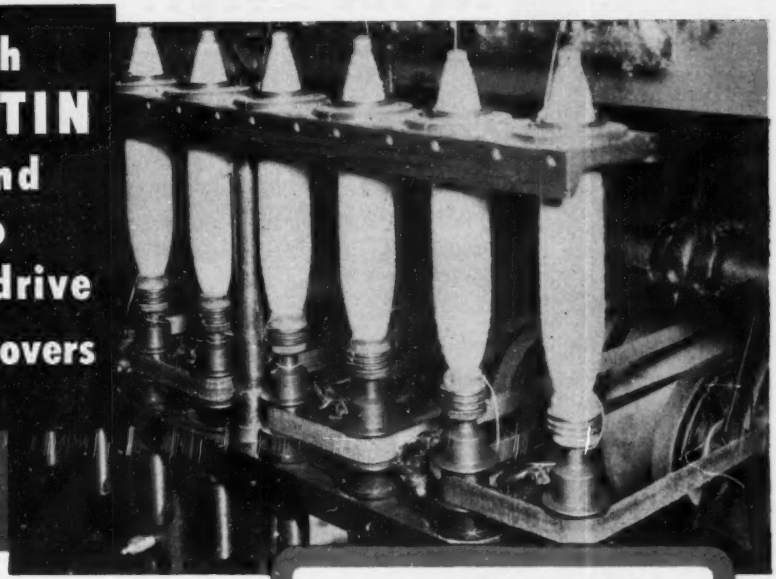
your band drive spinning frames . . .

with WHITIN band to tape drive changeovers



View showing spindles, tape tension pulleys and cylinders applied to a Whitin Model "A" spinning frame.

Is your mill one of the many still operating old band-driven spinning frames — frames that may still be structurally sound but admittedly non-competitive and inefficient by today's standards? Do you know that they can be modernized to make them competitive once again — and at a very moderate cost?

Whitin band to tape drive changeovers have been installed in many mills on various makes of frames and are paying big dividends in greater machine efficiency, better yarn quality and lower operating and maintenance costs. Our Repair Sales Departments in Whitinsville, Mass. and Charlotte, N. C. will be glad to furnish figures based on surveys of your particular requirements.

You benefit *9 WAYS* because you get—

- Improved yarn quality
- More even twist
- Increased breaking strength
- Lower maintenance costs
- Slower cylinder speeds
- Increased spindle speeds if desired
- Less noise and vibration
- Increased frame efficiency
- Modern machine engineering

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, N. C. • DEXTER, ME.

Know a sure cure for the creeps?

If it's not one thing around a plant, it's another. Maybe, with you, it's the creeps.

Machines creep out of adjustment and it's a slow, tricky process. Sometimes you don't even notice it till inspection shows up faults in your product. By that time you've run an expensive batch of seconds.

Or maybe the creeps will stop a machine altogether, with an end down or a thread break.

What causes creeping? Changing temperature, for one thing.

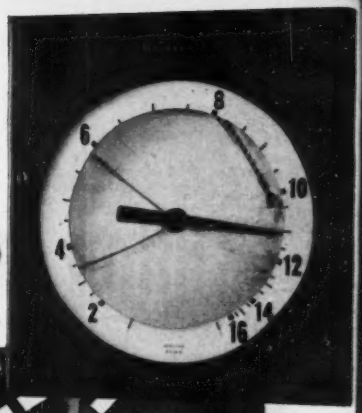
Now it's a fact your present evap cooling job was not designed to give you positive control of temperature. That takes added refrigeration, to keep your plant a smooth-running operation, with hardly a creep in sight.

Yes, the evap system you have now can be modernized. And because Carrier knows the textile business, you can bet the switch will be made just right for *your* mill. Call or write us. Carrier Corporation, Syracuse 1, New York.

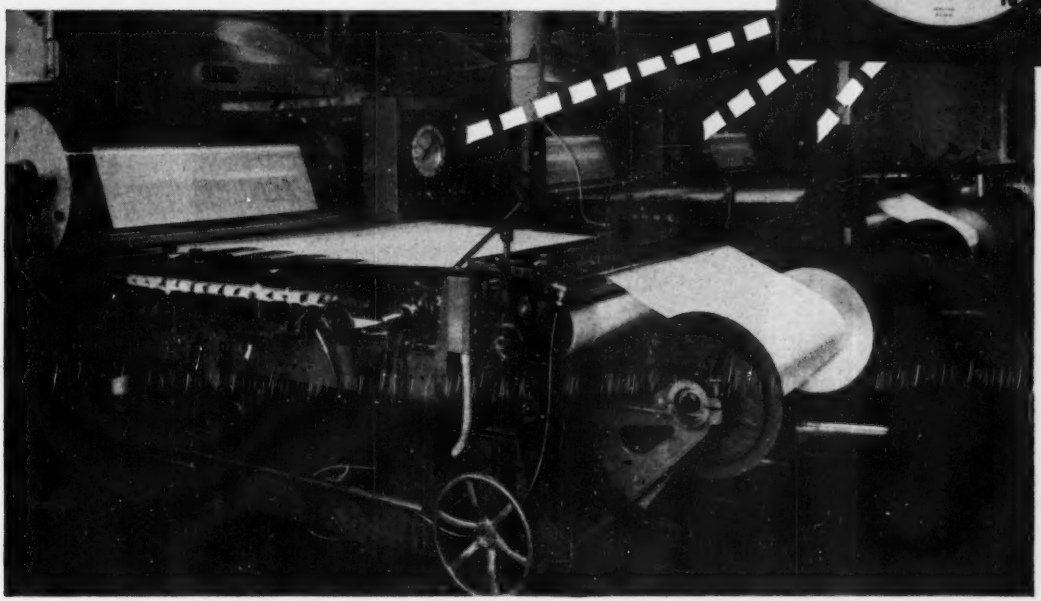
They find few faults in cloth in the new Gerrish Milliken Mill, because of Carrier air conditioning. Individual chilled water controls permit varying the relative humidity to fit the fiber being run—with the temperature held at 80 degrees. A Carrier Centrifugal Refrigerating Machine (*right*) maintains this constant temperature. It has a capacity of 900 tons and supplies chilled spray water to several Carrier Central Station Systems.

NOW

AT A GLANCE



Scale graduated in percent regain.



...direct reading of rayon warp regain

Check These Outstanding Advantages

- *Only instrument calibrated directly for measurement of rayon warp regain.*
- *Extendable operating range for measuring moisture in viscose, acetate, blends and synthetic warp yarns.*
- *Supervised installation by qualified engineer.*
- *Speed control system allows maximum throughput in sizer commensurate with warp weight and cylinder heating capacity.*

The calibration of the new Electronic *Moist-O-Graph* for the measurement of rayon warp regain marks another important contribution by Honeywell. You no longer need use a conversion table, apply mathematical formulae, or go into mental gymnastics to get a reading.

The Electronic *Moist-O-Graph* gives you the *exact* measurement of rayon warp regain at sight. When the pointer indicates 8 on the scale *it means 8%.*

The Electronic *Moist-O-Graph* is the *only* instrument calibrated directly for measurement of rayon warp regain. It furnishes a permanent and easily understandable chart record . . . eliminates confusion, lost time and extensive operator education.

To increase weave room efficiency through more accurate regulation of high speed rayon slashers, take advantage of this new *Moist-O-Graph* control system. Check the outstanding advantages . . . write for Data Sheet No. 8-1-37 . . . and call in our local engineering representative.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4492 Wayne Ave., Philadelphia 44, Pa.

MINNEAPOLIS **Honeywell**

Brown Instruments

Killing STATIC is not enough

If you can't say "YES" to these questions, your present anti-static agent is doing only half its job.

★ Does it spread evenly and thoroughly, covering all capillary surfaces of fibers or filaments?

★ Does it establish a uniform coefficient of friction, imparting equallized fiber-to-fiber cohesion?

★ Does it insure absence of gumminess involving aprons and card clothing?

★ Does it give you freedom from yellowing? Rancidity? Corrosive effects on mechanical parts?

★ Does it scour out readily and completely?

★ Is it balanced to do your job?

You can expect these "extras" and others, when you use Nopco "balanced" anti-static chemicals.

Reg. U. S. Pat. Off.

Whether it be wool, worsted, cotton, silk, rayon or nylon, Nopco textile chemicals are enabling manufacturers to profit by economies in processing, and obtain superior products. If you are not already using Nopco Anti-Static Agents, it will pay you to investigate. We'll gladly make recommendations based upon your specific requirements.

NOPCO * "Balanced" Anti-Static Chemicals

NOPCO 1656-R— *A moisture-free worsted oil applicable to all worsted production systems.*

NOPCO 1056-A— *A vital processing aid for Nylon warp and filling yarns.*

NOPCO FUA— *Widely used wool lubricant. Performs like a soap in wet finishing.*

NOPCO 1125-P— *For Nylon and Orlon yarns for lace manufacture. Prevents graphite contamination.*

NOPCO TRADEMARK EVOLVED THRU RESEARCH

NOPCO CHEMICAL COMPANY

HARRISON, NEW JERSEY

Branches: Boston • Chicago • Cedartown, Ga. • Richmond, Cal.

OILITE CAN HELP YOU NOW

Oilite Finished Machine Parts — with **NO** Machining

Here's how:

Oilite finished machine parts provide dependable replacements for bronze, brass, aluminum, cast iron, steel, and plastics. Frequently, replacements are permanent.

Oilite Material

Many Oilite raw materials, i.e., metal powders, are produced from by-products, readily available.

Tooling

Using Oilite finished machine parts, you save

- Tooling programs
- Tool Design
- Machine Tools
- Jigs and Fixtures
- Cutting Tools
- Gages
- Floor Space
- Skilled Manhours

Amplex type tools are, by comparison, inexpensive. Tool and die making facilities are available.

Delivery

Making Amplex tools generally requires only days or weeks and no additional machines.

Case Histories

Under conditions like today's we were in quantity production within six (6) weeks or less compared to eighteen (18) months by other processing.

Service

Our engineering and research covers a period of more than twenty (20) years in the production of Oilite metal powder products.

Home office personnel is augmented by a large staff of field engineers located in principal cities of the United States and Canada.

AMPLEX MANUFACTURING COMPANY

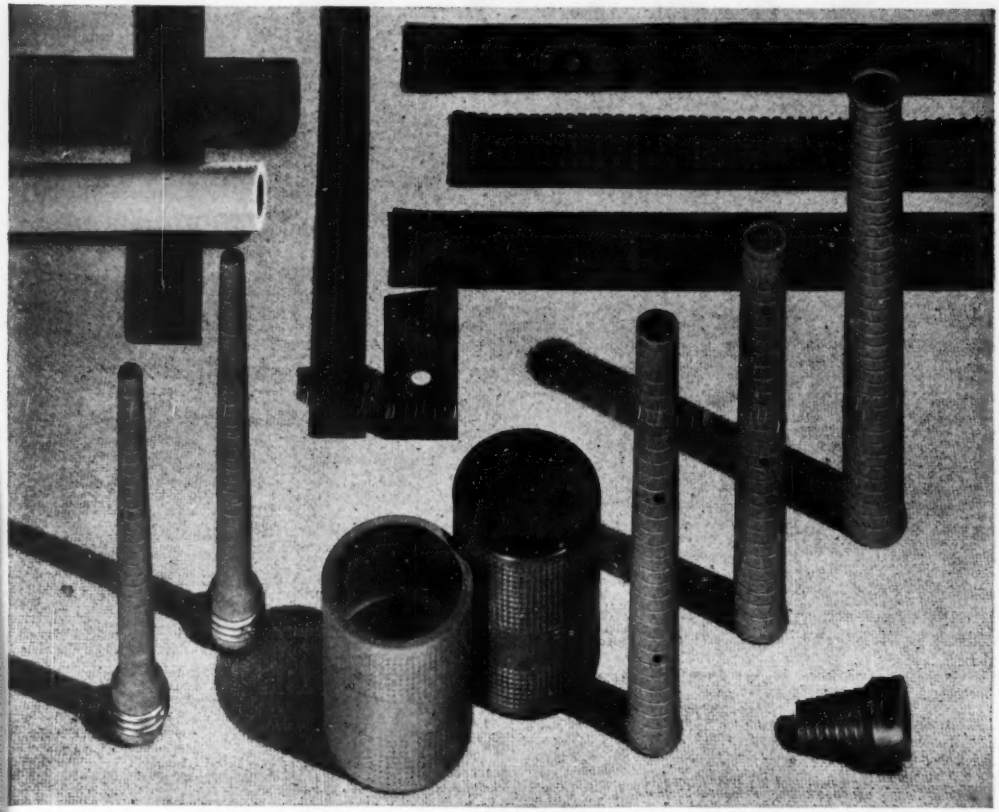
A Division of Chrysler Corporation

Detroit 31, Michigan

OILITE PRODUCTS

OILITE PRODUCTS INCLUDE heavy-duty, oil-cushion, self-lubricating, ferrous-base bearings; Oilite bronze* and other nonferrous* bearings; self-lubricating cored* and bar* stock; permanent filters; and friction units.

How has U. S. Rubber improved textile mill specialties?



This new line of mill specialties is made of plastics and plastic compounds developed by United States Rubber Company engineers. These are *more durable* and permit a *higher quantity* of textile output—with new savings in operating costs. These "U. S." Textile Mill Specialties have been thoroughly tested and prove.. in the textile mills of United States Rubber Company and many other leading mills. Investigate today. Write to address below.

U. S. TEXTILE MILL SPECIALTIES

Spooler sleeves • Filling bobbins • Spindle bumper tubing • Warp spinning tubes • Cap butts • Ustex-nylon spinner belts • Loom bumpers • Presser roll tubing • Loom straps • Warp compressor roll covers • Sand roll covers

PRODUCTS OF U.S.RUBBER SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

Cyanamid Textile Chemicals

DECERESOL® Wetting Agents
NO-ODOROL® Finishing Oils
AQUASOL® Sulfonated Castor Oils
SOLCORNOL® Sulfonated Corn Oils
Softeners • Penetrants
Sizing Compounds • Soluble Waxes

Rapid, more efficient penetration is just one of the important processing qualities that starts fabrics off to a good *finish*. Good dye affinity, suppleness and good hand are other important properties that speed up processing and make fabrics more workable, saleable.

Cyanamid Textile Chemicals are especially developed to impart such properties to fabrics. Why not let us demonstrate, in your own plant, what they can do for you.

AMERICAN Cyanamid COMPANY
INDUSTRIAL CHEMICALS DIVISION
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.
In Canada: North American Cyanamid Limited, Toronto and Montreal

Faster penetration...saves processing time

Picker Repair Parts--*Quickly*

We keep in stock for prompt shipment all parts for Kitson pickers as well as those of our own manufacture. For years we have shipped practically all repair part orders within 24 hours from the receipt of the order.

Most of our customers keep few, if any, picker repair parts in their stock rooms, but depend on our stock for service. This will be particularly desirable during the war emergency, when one large, available stock of parts can take the place of hundreds of incomplete stocks which would tie up a great deal more critical materials than the one large stock.

Our hundreds of regular customers are familiar with our service and depend on it. To those who are not our customers, we extend a cordial invitation to come to us in any emergency in the picker room.

We manufacture a complete line of picking, opening and blending machinery, and also rebuild like new old machines which are in need of replacement.

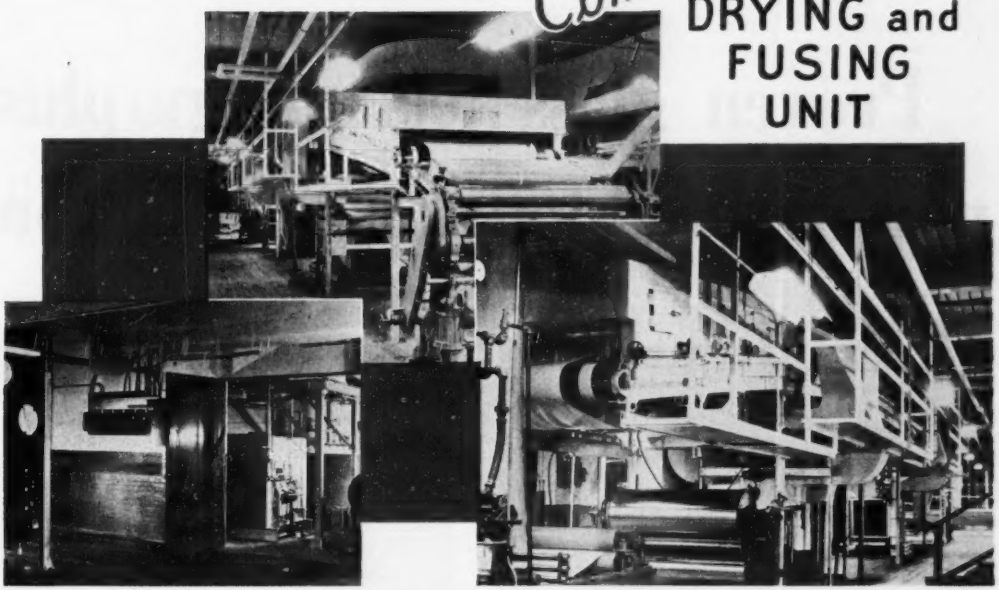
AldricH MachinE

Greenwood WorkS South Carolina

RESPRO INC., *Cranston, R.I. completes*

3 drying operations with their new

ROSS *Combination* DRYING and FUSING UNIT



Three views of Respro's single Ross Dryer and Fusing Unit: Top, entering end; left, dryer with controls; right, arched section and conveyor belt.

As would be expected, Respro Inc. utilizes the most efficient type of processing equipment for producing the famous "Resproid" plastic sheeting. Their new Ross Dryer is designed to perform three operations—(1) drying of printed plastics,—(2) drying and fusing of organosol coatings on cloth,—(3) drying and fusing of plastisol coatings on cloth. For organosols the arched unit shown above is used 50% for drying and 50% for fusing. For plastisols it is used 25% for drying and 75% for fusing. Another striking example of how Ross Engineering is increasing drying efficiency with better designed and built drying units.

ROSS KS SYSTEMS

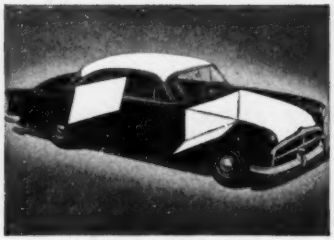
J. O. ROSS ENGINEERING CORPORATION

MANUFACTURERS OF AIR PROCESSING SYSTEMS

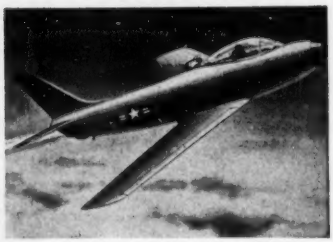
444 MADISON AVENUE NEW YORK 22, N. Y.

201 N. Wells Street, CHICAGO-6 • 79 Milk Street, BOSTON-9 • 9225 Grand River Avenue, DETROIT-4 • 600 St. Paul Avenue, LOS ANGELES-17
ROSS ENGINEERING OF CANADA, LIMITED, MONTREAL, CANADA • CARRIER-ROSS ENGINEERING COMPANY, LIMITED, LONDON, ENGLAND

Automobile tops, insulated with L·O·F Fiber·Glass against heat and cold, increase passenger comfort. Easy installation. Light weight. Won't deteriorate under normal conditions.

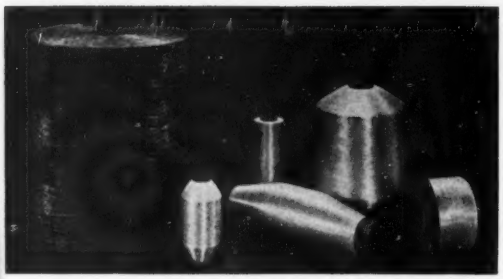


Automobile sound insulation a made-to-order job for L·O·F Fiber·Glass. Easy installation in doors, under the dash, on the fire wall, under the hood. Low moisture absorption, light weight.

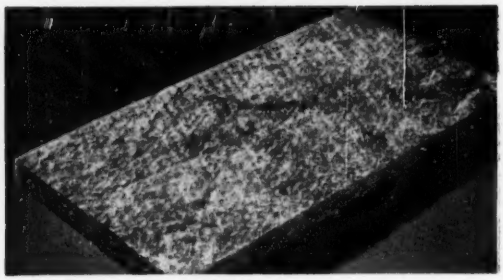


Aircraft sound and thermal insulation. Get these advantages of L·O·F Fiber·Glass. Light weight (as low as .3 lb. per cu. ft.). High fire safety. Low moisture pickup. High sound-insulating efficiency.

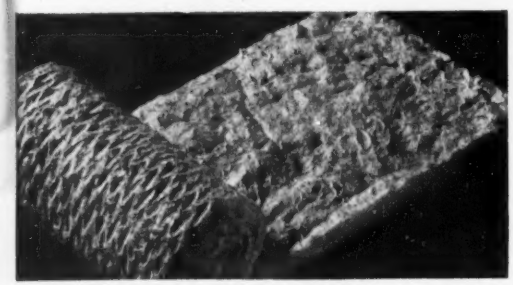
Proven glass technology plus now devoted to early production



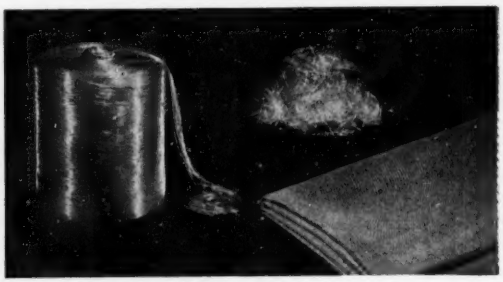
Continuous Fiber Textile Yarn—150 series for many uses, such as electrical insulating tape, sleeving, cloth, roving, and paper reinforcement. Glass fibers have enormous tensile strength . . . 250 thousand pounds per square inch. High dielectric strength. Withstands temperatures up to 800°F.



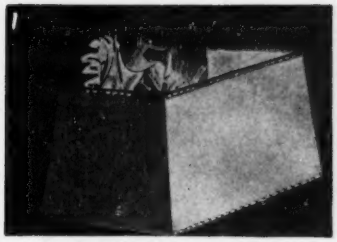
Super·Fine "B" Fiber—Splendid thermal- and sound-insulating qualities. Fiber diameter, .00012". Temperature range -0°F. to plus 450°F. Standard roll widths, 18", 24", 36", 72", in 100' and 200' lengths. Other widths and lengths also available in a range of thicknesses and densities.



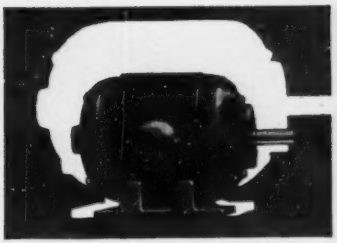
Super·Fine "AA" Fiber—primarily for aircraft insulation. Thickness, .5" with density of .6 lb. per cu. ft. Fibers of incredibly small diameter—.00004". With plastic binder to hold dimensional form. Roll widths, 36", 72", in 50' standard length.



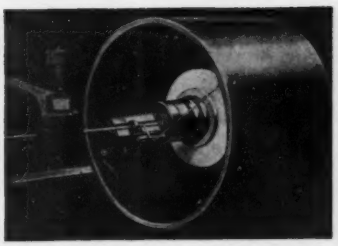
Roving, Chopped Strand and Textile Yarns—for reinforcing of plastics, paper, cloth and paper tape, etc. Enormous tensile strength. Won't shrink or stretch. Won't deteriorate under normal conditions. Versatile in application.



Industrial fabrics woven from Fiber·Glass are fine, safe, strong, rot- and mildew-proof. Ideal applications are tarpaulins, flame shields, airplane cloth, reinforcement for plastics.



Electric motors and generators insulated with L·O·F Fiber·Glass withstand heavy overloads. Appreciable space factor advantages! High dielectric strength.



Wire and cable can be served directly with L·O·F Fiber·Glass textile yarns using standard machines. Yarn also ideal for weaving tape, and braiding on wire and into sleeving.

fine, new facilities of L·O·F FIBER·GLASS!

Aviation, automotive, textile and electrical industries first to benefit from new, high-quality source of supply being readied by Libbey•Owens•Ford

HERE IS headline news of *immediate* interest to key men of business and industry.

The resources and advanced technical glass knowledge of Libbey·Owens·Ford are being focused on a new product—L·O·F Fiber·Glass!

With fine, new facilities at Parkersburg, W. Va., placed to serve you quickly, glass technicians of proven ability and experience are getting set to produce top-quality Fiber·Glass products in volume. (See facing page for basic items to be produced. Note above and right for typical applications.)

Across the country, in 24 major cities, L·O·F offices are busy with preparations to give you help on specific uses.

If your company has already discovered the superior qualities of fibrous glass, investigate L·O·F now as a new volume source, worthy of your complete confidence.

If your company now buys other material for electrical insulation, thermal or acoustical insulation, or reinforcing for plastics or paper, L·O·F Fiber·Glass can offer a combination of advantages unmatched by such other materials. This is a chance to benefit from the glass technology and the high standard of quality which you have come to expect from L·O·F!

For technical data, or engineering consultation on Fiber·Glass uses in your business, call your local L·O·F office—or write, wire or phone Libbey·Owens·Ford, Dept. F·G 106, Nicholas Bldg., Toledo 3, Ohio.

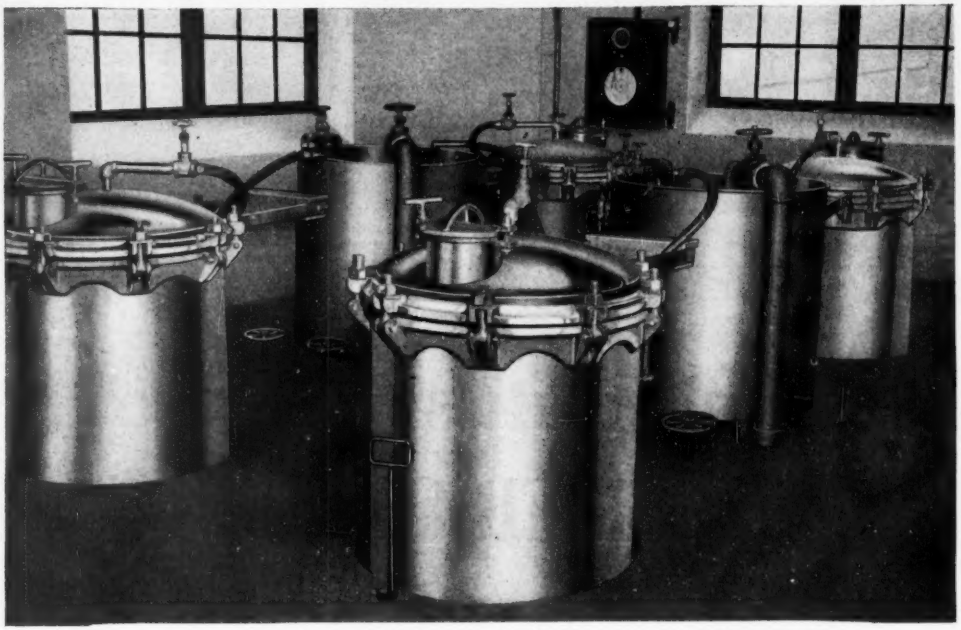
Plastic reinforcing, as in this bread tote tray, presents many possibilities with L·O·F Fiber·Glass. Remarkable strength. Won't dent or lose shape. No discoloration of plastic material. Exceptionally long life.

Paper and paper tape reinforced with L·O·F Fiber·Glass can be raised in tensile strength to equal aluminum or even steel! Either Fiber·Glass textile yarns or scrim mesh are suitable. Investigate!

LIBBEY·OWENS·FORD GLASS COMPANY
FIBER·GLASS DIVISION

L O F FIBER·GLASS

FIBER·GLASS



A Typical Double Installation of Burlington's Combination Beam and Package Machine

BURLINGTON'S VERSATILE BEAM AND PACKAGE MACHINE

Reduces Beam Channeling

Is troublesome beam channeling increasing the cost of your dyeing process? If so, Burlington Engineering Company can help you eliminate this problem. We will be glad to visit you and explain the unique engineering features contained in Burlington's beam equipment which keep the blowing of beams to an absolute minimum. You will be amazed to learn how little beam blowing there is with Burlington machines.

Burlington's superior dye house products include becks, package and beam machines, trucks, and other machinery. Burlington Engineering Company also fabricates products of stainless steel for any textile use including springs and tubes tailored to your specifications. Consult us for textile needs.

CALL OR WRITE US FOR FURTHER INFORMATION

Burlington ENGINEERING COMPANY, INC.
TELEPHONE 6-4378 BURLINGTON, N.C. GRAHAM, N.C.

SPECIALISTS IN DEXTRINIZATION AND BLENDING OF TAPIOCA, POTATO, CORN AND ALL STARCH PRODUCTS....

How to Get the ONE BEST Dextrine or Starch Product!

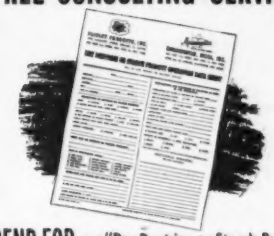
ONE OF SIX MORNINGSTAR LABORATORIES

MORNINGSTAR has developed Textile Dextrine and Starch Products to the highest known standards of performance! Skilled chemists, thru years of continuous research, have achieved a degree of uniform excellence in *all* Morningstar Dextrine and Starch Products, unapproached in the history of the industry.

Modern, scientific laboratory facilities and techniques have been established not only to *improve* but to maintain absolute *control* of quality. Now you can depend upon each succeeding shipment containing the same, fine uniform characteristics. Don't guess. Don't take chances on the Dextrines you use. Morningstar *Scientific* Dextrine and Starch Product Service can give you valuable aid. Tell us about your needs. Let our laboratory staff determine the one best formula for your specific requirements. Call our nearest field man or write us today.

The PAISLEY PRODUCTS Division of Morningstar, Nicol, Inc. is prepared to give you quick, efficient service on all Morningstar products. *Consult your telephone red book.* PAISLEY maintains sales and service organizations in most principal cities.

FREE CONSULTING SERVICE!



SEND FOR our "Dry Dextrine or Starch Product Operation Data Sheet." *Fill in and return it promptly. Our laboratory staff will gladly study your requirements and promptly recommend the one best and most economical formula to improve the specific operation you describe. This valuable laboratory service does not cost you one penny! Take advantage of it NOW!*

ESTABLISHED 1851

Morningstar

SCIENTIFIC DEXTRINE AND STARCH PRODUCT SERVICE

MORNINGSTAR, NICOL, INC.

630 WEST 51st STREET
NEW YORK 19, NEW YORK

1770 CANALPORT AVENUE
CHICAGO 16, ILLINOIS

How To Prevent "TRICOT TROUBLES"

with single end nylon sizing and coning

To be sure of getting first quality yarn at the tricot machine, consider the advantages of single end sizing and coning.

Many of the defects which might stop the tricot machine are eliminated by sizing on the Leesona No. 250B sizing machine. For example:

Runs and Smashes. Sizing places a protective coating around each end of yarn, binds the filaments, and protects the yarn against abrasion that may weaken it during later processing.

Dirt Marks. The size also prevents dirt from penetrating the yarn. Dirt stays on the size coating and is easily removed with the size during scouring.

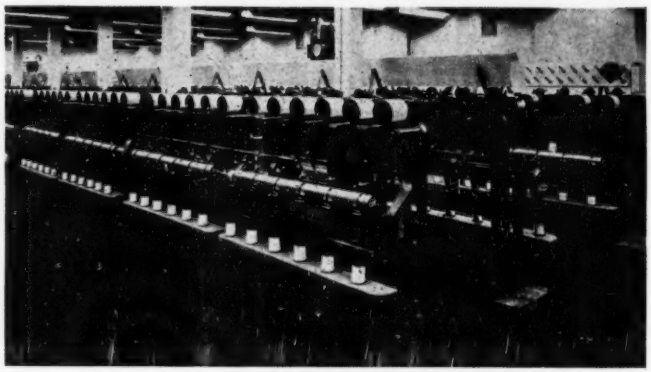
Single-end inspection by precision slubcatchers on the Leesona No. 50 pineapple coner also keeps imperfections from reaching the tricot knitting machine.

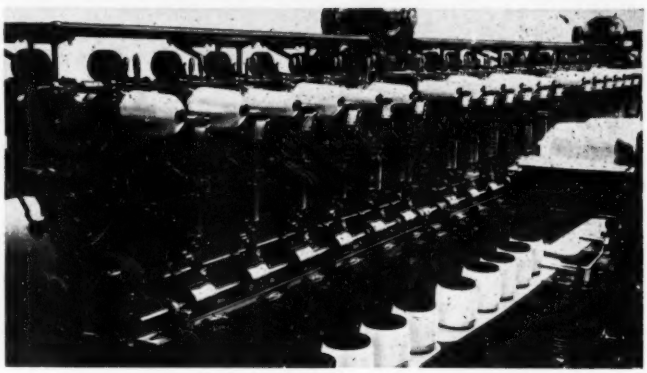
Double-ends are caught by mechanical inspection on the coner.

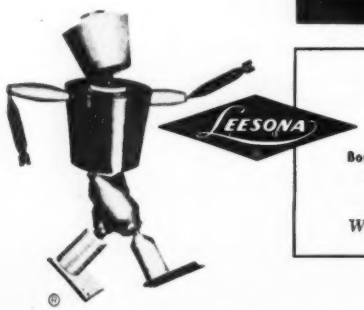
Static is considerably reduced by application of an anti-static oil during coning.

Barre marks and drag marks are reduced when stoppages on knitting machines are held to a minimum.

Nylon yarns processed on Leesona sizing and coning machines run better on tricot knitters.







UNIVERSAL WINDING COMPANY

P. O. Box 1605, Providence 1, R. I.

Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland

Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

SEE SUPREME'S SUPER-RIBBER ADVANTAGES

Through A Knitter-Mechanic's Eyes

★ **GIVES MULTI-MACHINE PRODUCTION WITHOUT "KNOCKING ITSELF OUT"**

Up to 56 Yards Per Hour from a *single* machine . . . Max. feeds per diameter inch means profit boosting production without machine-busting rpms. Less wear — less downtime — longer machine life.

★ **SIMPLER TO RUN AND MAINTAIN**

Flip-of-the-finger stitch adjustment . . . Open, easy-to-get-at knitting system . . . Individual, channeled cams —no chance of smash-ups . . . Direct, convenient, man-to-machine controls . . . Foolproof synchronization of dial to cylinder needles . . . Easier for new, inexperienced operators.

★ **HAS QUICKEST, EASIEST, SWITCHOVER FROM PLAIN TO SWISS RIB**

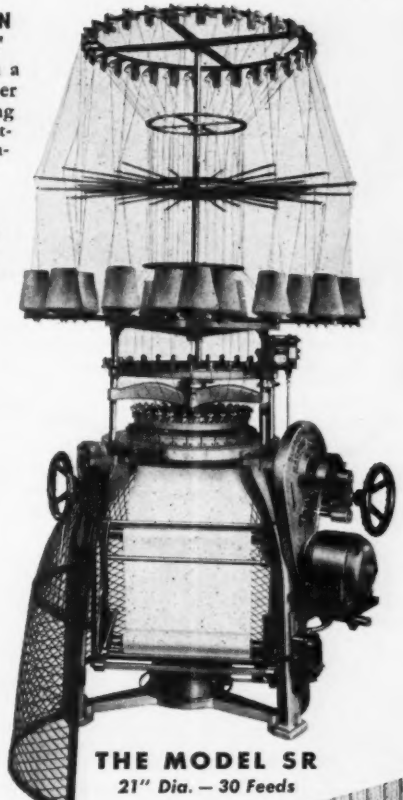
Exclusive, new method eliminates changing cams — gives immediate switch.

★ **KNITS "SUPER ELASTIC" QUALITY RIB CLOTH FROM PRACTICALLY ANY YARN**

Handles wide range and variety of yarns with minimum adjustments. Minimizes damages from weak or slubbed yarns. Uniform, high elasticity gives better size and shape retention. Dogless—no pinch lines.

★ **HAS SUPREME'S PROVEN-IN-THE-MILL FEATURES**

Sturdy, tripod construction . . . Trouble-free design and anti-wear engineering . . . Stationary Yarn Stand . . . Revolving, floating take-up and roll-up . . . Rugged, smooth-running unit motor drive. Patented multi-disc clutch . . . Starts easy . . . Stops fast.



THE MODEL SR

21" Dia. — 30 Feeds

The Supreme Model SR is available in a complete range of sizes from 7"— 10 feeds to 30"— 84 feeds. For further details, write for free folder.

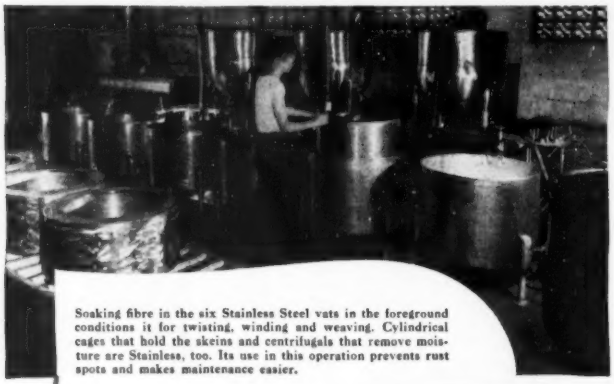
SUPREME

KNITTING MACHINE CO., INC.

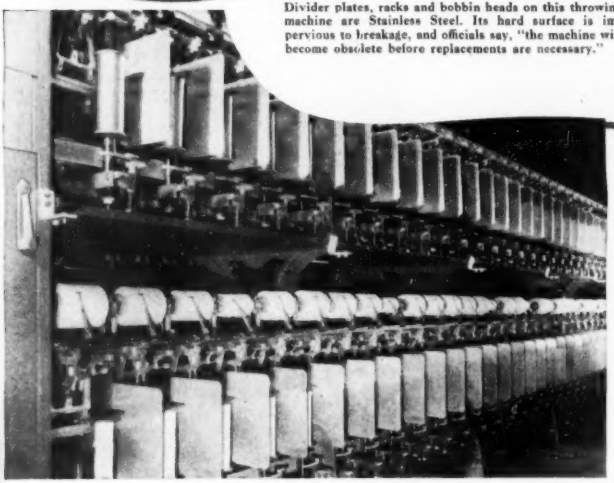
107 JOHNSON AVE., BROOKLYN 6, NEW YORK, N. Y.

Southern Representative and Showroom:
The Mallack Co., 711 S. Tryon St., Charlotte, N. C.

Throwing Mill eliminates all rust rejects by standardizing on Stainless Steel



Soaking fibre in the six Stainless Steel vats in the foreground conditions it for twisting, winding and weaving. Cylindrical cages that hold the skeins and centrifugals that remove moisture are Stainless, too. Its use in this operation prevents rust spots and makes maintenance easier.



Divider plates, racks and bobbin heads on this throwing machine are Stainless Steel. Its hard surface is impervious to breakage, and officials say, "the machine will become obsolete before replacements are necessary."

SCHNEIDER SILK MILLS takes every possible precaution to keep faults out of the fabric it weaves and knits. That's why the firm acquired its own source of thread and yarn four years ago by buying the Step Car Throwing Mill at Blakely, Pa. And that's why Stainless Steel is used in more than 90% of the throwing mill applications where machine parts actually touch thread or yarn.

Since all processes in a throwing mill are performed under moisture conditions ranging from complete submersion in the soaking process, to 55% to 76% relative humidity in the throwing rooms, the rust problem is obvious.

But the mill reports that all rejects due to contamination by rust from equipment have been eliminated through use of Stainless Steel. "Customer satisfaction and confidence are appreciably increasing, and the firm's position has become more secure through elimination of rust-caused defects," says Harold Bloch, Treasurer of Schneider Mills.

Purchasing Agent Jack LaZar takes a dollar-and-cents viewpoint: "First cost of Stainless is soon offset by savings in durability of thread-handling equipment parts, reduction of breakage of fiber on bobbins due to smoother edges of bobbin-heads subjected to steam, and elimination of rust due to replacement of former plated bobbin racks."

Wherever used, Stainless Steel equipment is proving to be a profitable investment for mill operators—and especially under present conditions. So give it a key place in your future program of quality control. And for finest performance, specify U·S·S Stainless Steel.

AMERICAN STEEL & WIRE COMPANY, CLEVELAND · COLUMBIA STEEL COMPANY, SAN FRANCISCO
NATIONAL TUBE COMPANY, PITTSBURGH · TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM · UNITED STATES STEEL COMPANY, PITTSBURGH
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

1-1189

UNITED STATES STEEL

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N.Y. December, 1931

Section Beams Wound Experimentally in 4½ hours

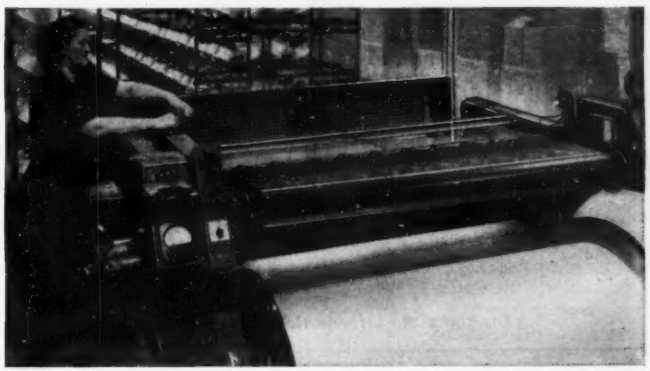
New Facilities of Avisco Textile Research Department producing interesting results

Avisco's Textile Research Department is now turning out section beams from cakes in as short a time as four and a half hours in experimental work with a new type beamer. Each beam carries 766 ends of 100 denier rayon 53,000 yards long, and beams have been wound with as low as six breaks each.

In these Avisco experiments, as a result of improvements in the formation of the cakes, coning is bypassed, the beamer being fed directly from the cakes. Time and motion studies have also enabled Avisco to reduce to thirty-five minutes the time required for three experienced girls to tie the 766 knots necessary each time a new beam is started.

Electronic control keeps the yarns moving at a constant speed and provides for an automatic stop, without skidding, whenever a break occurs. As a result of these and other refinements the speed at which it is being run by Avisco is approaching 450 yards per minute. Among these other refinements are a traverse, quick-doffing arrangement, pre-setting counter, and an instant speed change.

This machine is one of a number of new textile machines installed recently by Avisco's Textile Research Department. The department has long engaged in a continuing study of fibers, yarns, fabrics, finishes, and equipment, for the service of the textile industry.



RAYON 20 YEARS AGO

NEW YORK, December, 1931—An improved earning outlook for the rayon industry is predicted in 1932.

PARIS, December, 1931—Cocktail pajamas of rayon are being emphasized by designers, here.

BERLIN, December, 1931—A process has been proposed for manufacturing rayon by using static electricity in the viscose solution.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

World's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

Brand New

PATENT PENDING

Completely new method of manufacture, at new low price. Various styles.

CLEANDRAFT
Non-lubricating Top Rolls for Back and Middle Lines*

- eliminate all lubricating effort.
- give much cleaner yarn, due to complete freedom from lubricant.
- reduce picking and cleaning.
- simple to install.

Low First Cost — Substantial Savings — INVESTIGATE

*Not for front line use.

CLEANDRAFT Non-lubricating Top Rolls are made for back and middle lines of all standard and long draft cotton Spinning Systems.

For complete information, write

INDUSTRIAL PLASTICS, INC.

21 VERNON STREET, WHITMAN, MASS.

Northern Sales:
Richard K. Butler
P. O. Box 428
Whitman, Mass.

Belgium:
Firme Paul Pfieger
158 Chaussee de Courtrai
Ghent, Belgium

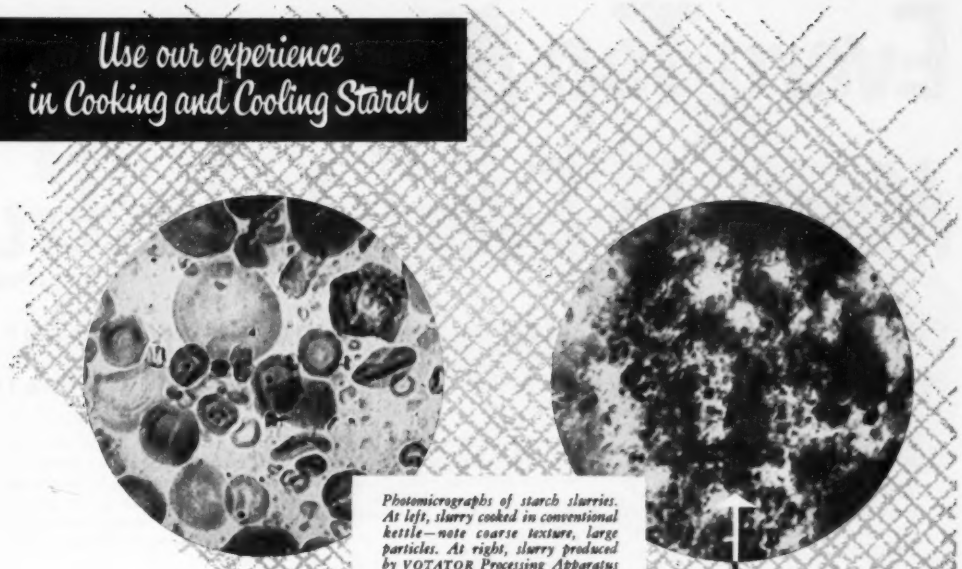
Southern Sales:
Watson and Desmond
P. O. Box 1954
Charlotte, N. C.

France:
Thoma & Compagnie
21 Rue de la Chapelle
Paris 18e, France

Southern Service Office:
Box 1863
Spartanburg, S. C.

For European Service:
Victor Beecroft
54 Boroughgate
Otley, Yorkshire, England

Use our experience in Cooking and Cooling Starch



Photomicrographs of starch slurries. At left, slurry cooked in conventional kettle—note coarse texture, large particles. At right, slurry produced by VOTATOR Processing Apparatus—note fully exploded granules, smooth, uniform texture.

improve weavability...
reduce yarn breakage...

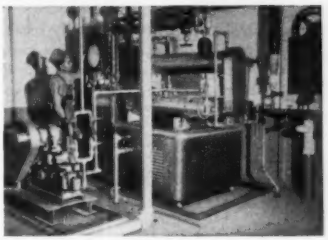
WITH FINER TEXTURE WARP SIZE

A SIZE OF FINER TEXTURE and correct viscosity—as produced by VOTATOR Warp Size Processing Apparatus—penetrates into the warp yarn, lays the fibres smoothly, forms a tough, pliable film. Thus the yarn's resistance to the strain of weaving is increased, breakage and shedding greatly reduced.

In VOTATOR Processing Apparatus, each starch granule is completely exploded and mixed. Size is produced at the exact viscosity desired because precise mechanical control is maintained over all process factors. Less starch is needed, there is less starch for the converter to wash out.

Operation is simple, requires a minimum of labor. Continuous, *fully-enclosed* processing also eliminates spillage and slimy deposits on the floor. And with no open handling, material waste is reduced.

Send the coupon today for complete data on processing finer warp size to help you do a better weaving job. The Girdler Corporation, Votator Division, Louisville 1, Kentucky.



GIRDLER
CORPORATION
Votator Division

VOTATOR T. M. Reg. U. S. Pat. Off.

The Girdler Corporation, Votator Division
224 East Broadway, Louisville 1, Kentucky
Please send bulletin on the following:
- ☐ Warp Size production with VOTATOR Processing Apparatus.
- ☐ Printing Gum production with VOTATOR Processing Apparatus.
- ☐ Backfill production with VOTATOR Processing Apparatus.

Name .....
Position .....
Company .....
Address .....
City ..... State .....

Every Top Management Man... In Every Industry

SHOULD BE ABLE TO ANSWER THESE QUESTIONS ABOUT A MOST CRITICAL EMERGENCY IN OUR COUNTRY'S AFFAIRS

Q. Why is iron and steel *scrap* a matter of importance to me?

A. Steel for our country's military program and civilian economy is being produced at the annual rate of 107,000,000 tons in 1951 . . . 119,500,000 tons expected in 1952. Steel-making capacity is being increased now to meet those quotas.

What Do I Get For My Scrap?

In addition to being paid for your scrap, you remove nuisance inventory from your plant—saving valuable floor space. Also, you have a better chance of *getting* new steel or steel products. But, *most important*—you help alleviate a dangerous condition threatening our country's capacity to rearm and satisfy civilian requirements at the same time.

Q. How does scrap figure in the production of steel?

A. Steel is composed, generally speaking, 50% of pig iron, 25% of "production" scrap (that is, the scrap which is produced as a by-product of steel-making) and 25% of "purchased" scrap.

Q. Is scrap getting scarce?

A. Yes. The supply of *purchased* scrap is not increasing fast enough to meet the needs of increasing steel production.

Q. What if the needed scrap isn't obtained?

A. Open-hearth furnaces will not be able to operate at capacity. That will mean a loss of steel production . . . and fewer products made of steel.

Q. Why not use pig iron instead of scrap?

A. Every ton of scrap conserves approximately 2 tons of iron ore, 1 ton of coal, nearly ½ ton of limestone and many other vital natural resources—to say nothing of the extra transportation facilities that would be otherwise required.

Q. How can *more* scrap be furnished?

A. By everybody pitching in—as we always do in every emergency—and searching out all possible sources of scrap.

Q. What are these sources?

A. Metal-fabricating plants normally turn over to scrap dealers the scrap left from machining. But there's not enough of this to fill our present enormous need. So everybody—both in and out of the metal-fabricating industries—must sell scrap in the form of *idle metal*.

Every pound of idle metal is needed to keep our steel mills operating at top capacity. Sell your idle metal to a local scrap dealer right away.

What Do I Do *First*?

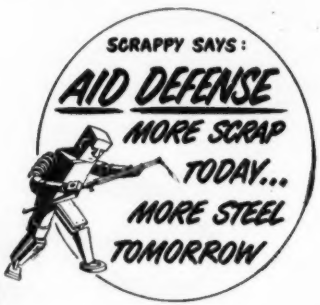
Write for free booklet. It tells how to set up a Scrap Salvage Program in your plant. Thousands of plants are cooperating. Do your part now! Address Advertising Council, 25 West 45th Street, New York 19, N. Y.

Q. *We* don't *produce* scrap—how can *we* help?

A. Scrap is any kind of iron and steel that's gathering dust—obsolete machines or structures, jigs and fixtures, pulleys and wheels, chains and track, valves and pipe—*anything* with rust on it or dust on it. Non-ferrous scrap is needed, too.

Q. What do we do with it when we find it?

A. Use your normal channels or get in touch with a recognized scrap dealer.



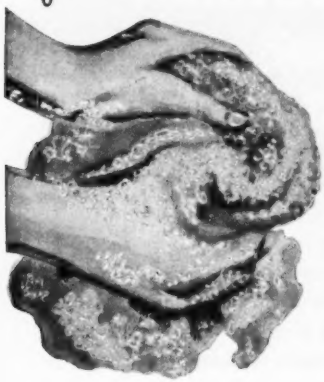
This advertisement is a contribution, in the national interest, by

TEXTILE INDUSTRIES

A PUBLIC SERVICE PROJECT • THE ADVERTISING COUNCIL

*KERANOL nk®

gives woolens, cottons and rayons a very desireable, soft full hand...



***Durable to Washing and Dry Cleaning**

Your woolen, cotton and rayon fabrics finished with KERANOL N K will have a truly mellow, glove-like hand, durable to washing and dry cleaning. KERANOL N K is unaffected by variable pH values, so may be used with greatest efficiency in neutral, alkaline or acid baths.

Mail the coupon for further information.

Additional – and highly valuable – use of KERANOL N K: as a plasticizer and softener in conjunction with all types of resin finishes.

EXCELLENT RESISTANCE TO YELLOWING!

Arkansas Co. INC.

MANUFACTURERS OF INDUSTRIAL CHEMICALS FOR OVER 45 YEARS
NEWARK, NEW JERSEY

Arkansas Co., Inc.
P. O. Box 210
Newark, N. J.

Gentlemen:
Please send, without obligation:

- ☐ full details on KERANOL N K
- ☐ sample and application procedure
- ☐ please have representative call

NAME_____ TITLE_____

FIRM NAME_____

ADDRESS_____

CITY_____ STATE_____

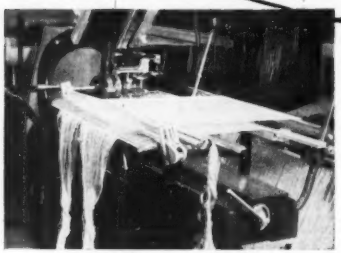
3-12-1

BARBER COLMAN

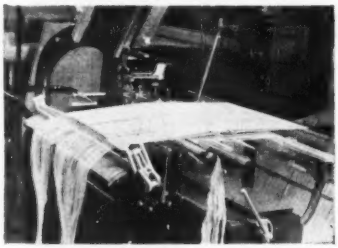
Reduce Costs!
Increase Production!
Improve Products!

TIES IN EITHER PLAIN OR LEASED WARP WITH EQUAL SPEED AND EFFICIENCY

BARBER-COLMAN *Portable* WARP TYING MACHINE



Model "LL" machine set up for tying in a plain cotton warp.



The same machine as above, now set up for a leased cotton warp.

A Barber-Colman PORTABLE Warp Tying Machine can be a *very profitable* investment for you. This machine offers a fast and accurate means for tying-in new warp *at the loom.* It can be handled in confined and hard-to-reach places and in loom alleys as narrow as 12". Overall production capacity averages 3500 to 4500 ends per hour, higher on high sley warps. Models are available to handle cotton, wool, worsted, silk, or synthetics (including monofilaments) and plain warps or leased warps or both. Tying is accurate and uniform and so much more efficient than common hand methods that the machine will pay for itself quickly in cost savings *even when not in constant use.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND MUNICH, GERMANY

Always Uniform

There is often no open-and-shut answer to slashing problems. But one thing is basic . . . only unvarying quality such as you get in Victor Mill Starch can insure smooth performance day after day.

That's why Victor is known as "The Weaver's Friend" throughout the industry.

For better penetration, stronger warps, less shedding . . . rely on Victor Mill and the conscientious help of the Keever man who serves you.

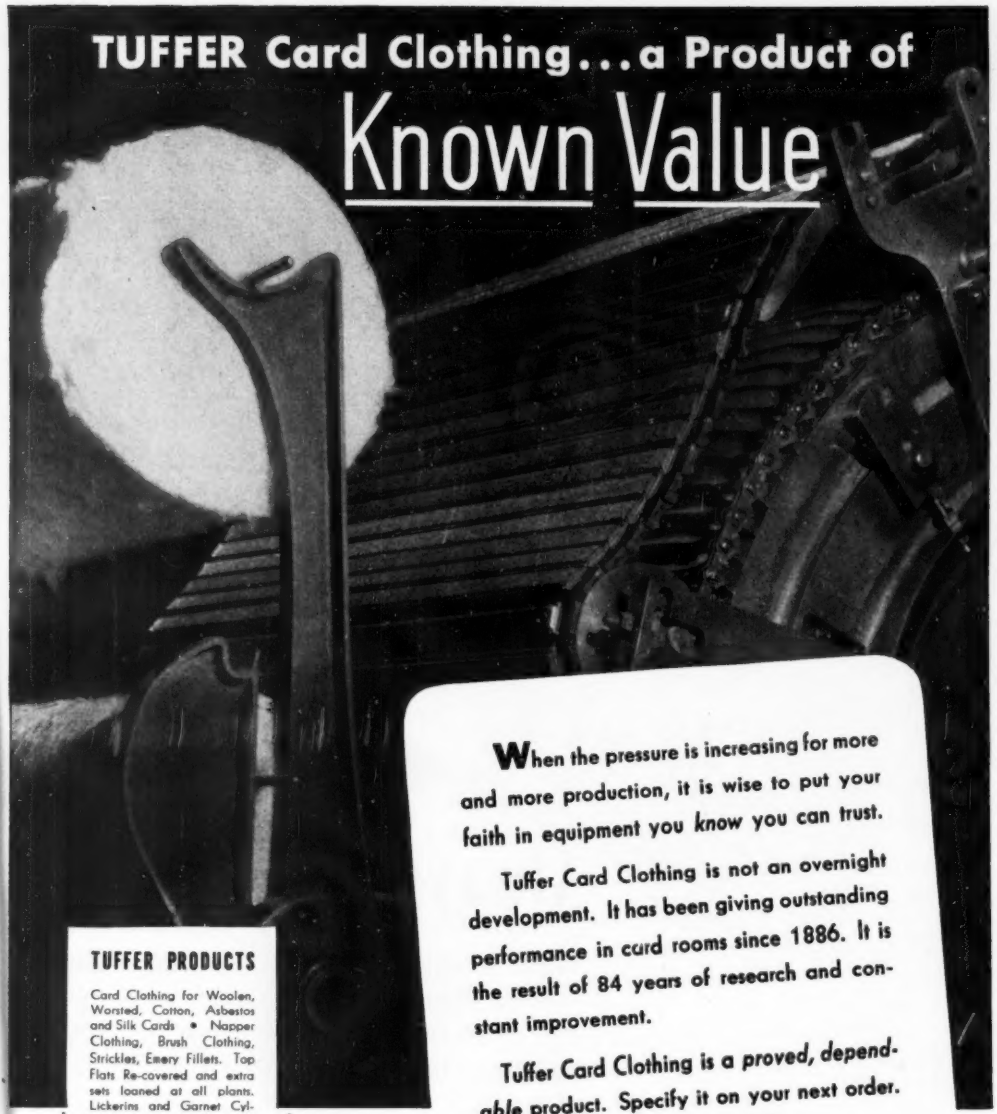
TEXTILE SALES DIVISION
1200 WOODSIDE BUILDING
GREENVILLE, SOUTH CAROLINA
Charles C. Switzer, Manager

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO

Corn, wheat and other grain products for industry since 1898

TUFFER Card Clothing...a Product of

Known Value



When the pressure is increasing for more and more production, it is wise to put your faith in equipment you *know* you can trust.

Tuffer Card Clothing is not an overnight development. It has been giving outstanding performance in card rooms since 1886. It is the result of 84 years of research and constant improvement.

Tuffer Card Clothing is a *proved, dependable* product. Specify it on your next order. Let it prove itself on your cards.

TUFFER PRODUCTS

Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Re-covered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted Eye & Regular Wire Heddles

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-4

TUFFER CARD CLOTHING *IMPROVES PRODUCTION ALL ALONG THE LINE*

add up the yearly cost and you'll agree . . .

Yarn Carriers, too, are Capital Equipment

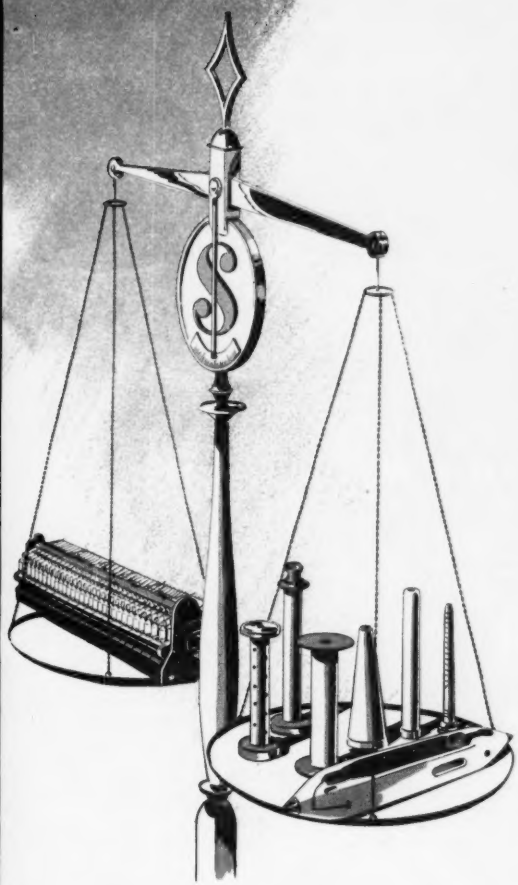


Figure it out for yourself. Add up your yearly costs for bobbins, shuttles, and other yarn carriers. Comes to an impressive total, doesn't it? More than you might pay for several units of processing machinery.

The machinery purchase is recognized to be an investment in capital equipment. Alert management selects the product of a reputable manufacturer, with a record for *delivering* the promised efficiency and economy in mill operation.

Too often, because the *individual* cost is small, each purchase of yarn carriers is regarded as a "petty cash" transaction. But when their *collective* cost is considered — as much as $80,000 annually in some mills — you'll agree that yarn carriers, too, are capital equipment.

That's why it's good business to buy bobbins and shuttles with the same sharp eye to reliable source and performance records that you use in buying machines.

And that's where U S specialists can help you. Whether you are equipping a new mill or replacing worn out carriers, talk to a U S sales representative first. You'll find it pays . . . in better yarn and fabric quality, and in lower operating costs.

U S BOBBIN & SHUTTLE CO.

LAWRENCE, MASS. PROVIDENCE, R. I. PHILADELPHIA, PA. JOHNSON CITY, TENN.
GREENVILLE, S. C. CHARLOTTE, N. C. MINNEAPOLIS, MINN.
LOS ANGELES: E. G. Paules, 1762 W. Vernon Ave.
DALLAS: G. T. Daniel, Textile Supply Co.
CANADA: W. J. Westaway, Montreal, Que., Hamilton, Ont.

U S owned timber properties permit complete control of wood stock selection and every step in processing, from forest to finished products. Five manufacturing plants, North and South, provide ample facilities to produce and deliver promptly the cost-saving yarn carriers you need, in any quantity.

Anywhere in textile America, you are near the headquarters of a U S specialist in yarn carrier selection. He'll call at your request.

INTERCHEMICAL

Your Most Logical Source for the Finest Textile *Colors*

INTERCHEMICAL CORPORATION

Textile Colors Division

Rock Hill, S C Hawthorne, N. J. Pawtucket, R. I.

ARIBASE† solutions

NEW

Aribase Solutions are Interchemical's new line of stabilized bases for coupling with Interchem Napthols in your own plant.

ECONOMICAL

Aribase Solutions permit you to produce with utmost economy fast-color prints identical in fastness to those obtained with the Arigen* line of stabilized azoic dyes.

VERSATILE

Aribase Solutions produce brilliant reds, scarlets, dark blues, and violets. They can be applied in conventional gum thickeners or by Interchemical's exclusive Aquadye* Emulsion method. They are particularly suitable for printing alongside Aridye Pigment Colors.

● For samples and complete information write Interchemical Corporation, Textile Colors Division, Hawthorne, New Jersey.

Interchem Dyes
Reg. U.S. Pat. Off.

Aridye PIGMENT COLORS
Reg. U.S. Pat. Off.

†Trade mark *Reg. U.S. Pat. Office

Your Best Motor and

THESE MOTORS NEED NO LUBRICATION

Westinghouse pre-lubricated bearings are paying big dividends to users throughout the textile industry in many ways. Lubrication maintenance is out! Factory sealed, pre-lubricated bearings need no further lubrication. Down time from bearing failures due to over or under greasing is a thing of the past. Pre-lubrication is positive. And there is no chance for dripping grease to mar textile.

Life-Line Loom Motors

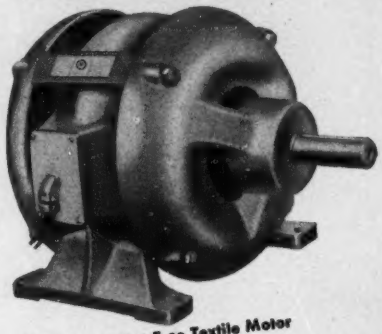
Have balanced design, with an ideal combination of speed-torque characteristic and fly wheel effect, resulting in optimum loom performance. Life-Line construction provides maximum strength, minimum dimensions, and a smooth easy-to-clean finish.

Lint-Free Motors

Streamlined, highly polished, stator windings and smooth internal surfaces prevent clogging and offer no foothold for lint to accumulate.

Both these motors are available. Act now. Call or wire your nearest Westinghouse Electric Corporation Office.

Foot-Mounted Life-Line Loom Motor



Lint-Free Textile Motor

YOU CAN BE SURE... IF IT'S
Westinghouse

TEXTILE MOTORS
and CONTROLS

Control Buy Today

REDUCE FIRE HAZARDS WITH THIS LINT-TIGHT STARTER

Report: "According to a study of weave-room fires by the Associated Factory Mutual Fire Insurance Companies for the period of 1935 to 1945, 38.8 per cent of the electrical fires in weave rooms were caused by loom motor starters."

Approved by Associated Factory Mutual Fire Insurance Companies

Designed in collaboration with the engineering division of the Associated Factory Mutual Fire Insurance Companies and leading textile manufacturers, this starter is aimed specifically at reducing weave-room fire hazards. No chance for combustible lint and dust to reach contacts and spark an explosion. It's the only starter approved by the Associated Factory Mutual Fire Insurance Companies.

Best motor protection you can buy

Outstanding Westinghouse features assure positive motor protection and long motor life. Positive bimetallic overload protection . . . quick-make—quick-break toggle mechanism . . . "De-ion®" arc quenchers . . . Bonderized enclosure.

Get the advantages of this fine starter. Act now. Fast service. Phone your Westinghouse representative today. J-21673

IMMEDIATE ACTION

Westinghouse Electric Corporation
P. O. Box 868
Pittsburgh 30, Penna.

Send complete information on following:

☐ Lint-Free Motor	DB-3800-2
☐ Loom Motor	DB-3800-1 "CSP"
☐ Loom Motor Starter	B-5256 and DB10-100-1

Name_____

Company_____

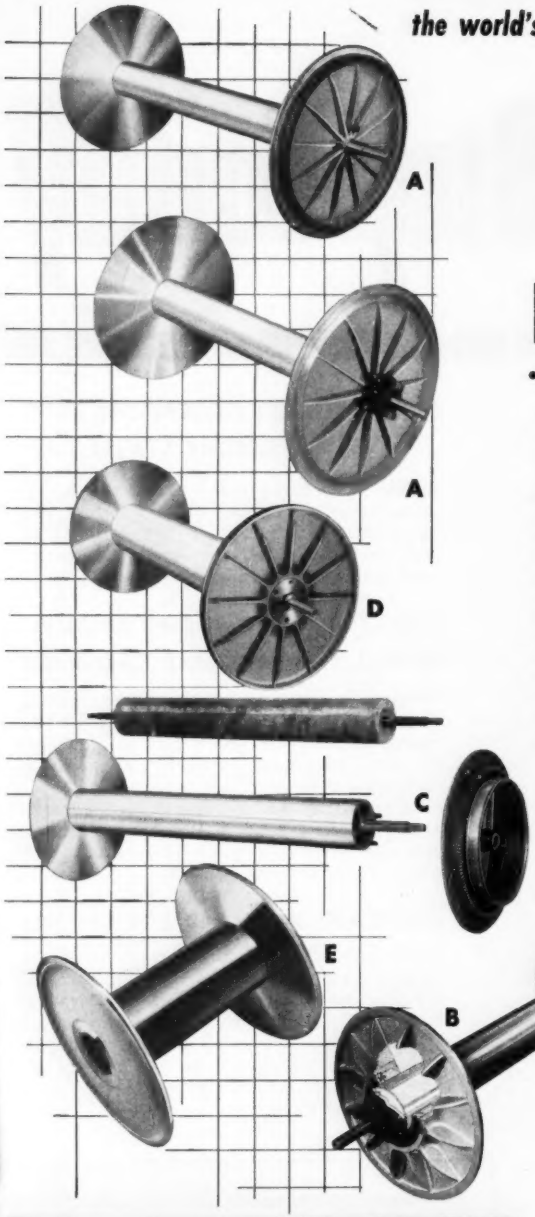
Address_____ City_____ State_____

the world's largest producer of light metal beams

HAYES

gives you modern

beam engineering



Hayes Engineering facilities are the result of more than 17 years experience in designing and fabricating light metal products. Hayes experience in designing and fabricating, has produced textile beams that are light in weight, true-running and perfectly balanced to give you the greatest possible accuracy in weaving. Working surfaces are machined to precise limits of size and run-out and are highly polished and waxed. They are rust proof, warp proof, splinter-free and require no special maintenance. Hayes design, correct engineering and true running balance, together with the mirror-smooth surfaces which are possible by using light metals—result in a smooth high-speed operation, which produces better selvages and reduces rejects to a minimum.

Thousands of Beams are shipped each year, but demand far exceeds the supply. In fact, to make delivery of some items, more than six months are required, and in fairness to our customers, orders must be filled in the sequence they are received. We will do our best to fulfill your requirements and welcome your inquiries.

HAYES MODERN PLANT FACILITIES PRODUCE

A. Light Metal Loom Beams
B. Light Metal Adjustable Loom Beams
C. Light Metal Replacement Loom Beam Barrels
D. Light Metal Section Beams
E. Light Metal Tricot Beams

HAYES INDUSTRIES, INC.,
JACKSON, MICHIGAN

HAYES ALSO HAS die casting and machining facilities for large scale production of special light metal bobbins. Consult Hayes Engineers for modern engineering service on Light Metal Textile Beams — Write today to:
HAYES INDUSTRIES, INC., - Jackson, Michigan

EASTERN REPRESENTATIVE
J. Paul Laird
Philadelphia, Penn.

SOUTHERN REPRESENTATIVE
R. E. L. Holt Jr. & Assoc.
Greensboro, N. C.

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Inc.

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Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

Lincoln
Centralized Lubrication

Saves Increases POWERTIES TRAVELER LIFE

DORR WOOLEN CO.
MANUFACTURERS
GUILD, N.H.

March 10, 1950

Lincoln Engineering Co.
8 St. Mary's Street
Boston, Mass.

Gentlemen:

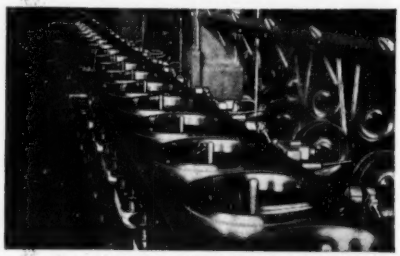
We have had the Lincoln Centromatic System installed on our frames since we purchased them and we are more than satisfied with its performance.

Two or three things which we noticed which might be of interest to you. One is the increase in Traveler life over what we expected. From what information we can gather from nearby mills using the same type of frames and same yarns, our Travelers are lasting from three or four times as long. We have no down-time required for oiling and our frames are much cleaner as a result of this installation. As a result of the effective lubrication, we notice a marked reduction in ends down.

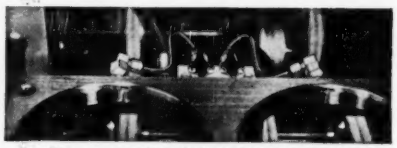
The maintenance on this system is negligible to date and, in short, we would be pleased to recommend it to anyone contemplating installation.

Yours truly,
DORR WOOLEN COMPANY
President

GAD,Jr:P



Centro-Matic Lubrication System installed on (14) 120 Spindle Whitin Spinning Frames at Dorr Woolen Co.



Close-up view of Lincoln Centro-Matic injectors installed on Whitin Spinning Frames at Dorr Woolen Co.

Close-up view of Whitin Spinning Frame showing how injectors on each rail section are supplied with lubricant independently from the main supply line down through center of frame.

Lincoln's Centralized Lubrication Provide

Lincoln's Lubrication System specialists will work with you and recommend the time and money saving Centralized Lubrication System best suited to your equipment. Phone or write

Right LUBRICANT QUANTITY *Automatically*

SEE OUR CATALOG IN SWEET'S

• • • PIONEER BUILDERS LINCOLN LUBRICATING EQUIPMENT • • •

LINCOLN ENGINEERING COMPANY • 5702-15 Natural Bridge Avenue • St. Louis 20, Mo.

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THE BIG 89% PROVES SUPERIORITY OF YALE ELECTRIC TRUCKS

89% of the Yale Electric Trucks sold today are bought by previous users . . . so satisfied with Yale performance and Yale economy that Yale is their choice again.

THESE USERS had ample opportunity to make every on-the-job test—to compare Yale Electric Trucks with any others—to get dollars-and-cents proof of how Yale saves man-hours, steps up production, speeds all materials handling jobs.

These users found Yale Electric Trucks pay for themselves faster . . . then go on giving many years of service . . . taking the toughest jobs right in stride.

If you're not already among the users of Yale Electric Trucks, be guided by the Big 89% and this proven record of satisfaction. Ask your Yale Representative to show you the actual performance records which persuade Yale users to buy Yale Electric Trucks again and again.

YALE & TOWNE

The Yale & Towne Manufacturing Co., Philadelphia 15, Pa.

YALE is a registered trade mark of The Yale & Towne Manufacturing Co.

SEND THIS COUPON TODAY

The Yale & Towne Manufacturing Co., Dept. 4912
Roosevelt Boulevard & Haldeman Ave., Philadelphia 15, Pa.

I am interested in cutting my materials handling costs.

☐ Please have your local representative call on me.
☐ Please send me free detailed literature.

Name_____ Title_____

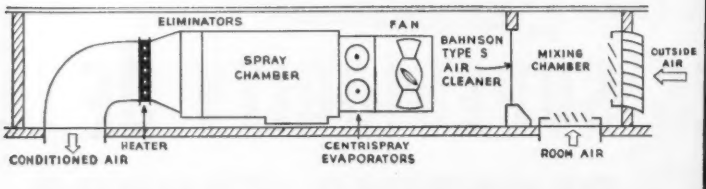
Company_____

Street_____ City_____ State_____

In Canada write: The Yale & Towne Manufacturing Company, St. Catharines, Ontario

YALE GAS AND ELECTRIC INDUSTRIAL TRUCKS • YALE WORKSAVERS • YALE HAND TRUCKS • YALE HAND AND ELECTRIC HOISTS

TEXTILE AIR CONDITIONING



Bahnson Centrispray Air Washer installed in monitor conditions this Warping and Spooling Room.

Centrispray AIR WASHER

A new Bahnson development designed to improve textile operations.

In the Centrispray Air Washer, Bahnson Centrifugal Evaporators replace spray nozzles. The result is closer control with less water, less weight, and less maintenance. Compact Centrispray units are easy to install, require less space. Cooling by evaporation or refrigeration.

Humidity is controlled directly by the humidistat. Moisture is added in direct proportion to the room requirements.

The design allows high velocity through the unit—gives effective saturation with smaller cross section. Axial-flow fans are on the dry side of the system for longer life, easy maintenance.

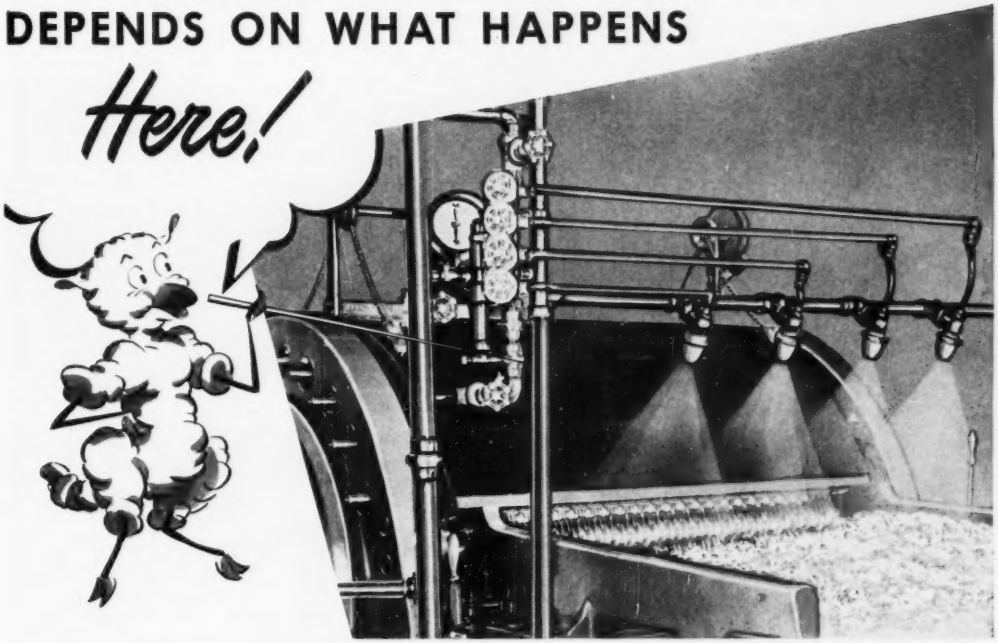
Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

Better AIR CONDITIONING ... at lower cost

For natural or synthetic fibres—for any textile process—there is a Bahnson System suited to your needs. You benefit from Bahnson's wide range of equipment.

You can learn more about the Centrispray System or other Bahnson Systems. Write us and we will have our representative call to discuss your problem.

CARDING AND SPINNING *Efficiency* DEPENDS ON WHAT HAPPENS *Here!*



Leading woolen mills wisely select their wool oils with extreme care. The reason, of course, is that they know how much the oil's performance governs the success of the many operations which follow.

A good wool oil, properly applied, can substantially step up carding and finishing efficiency. Its efficient performance is noticeable all down the line—even to the finished goods.

And this explains why woolen mills in increasing numbers are changing to Proxol.

Proxol emulsions are unusually stable. In carding, there's less waste, less static, less fibre breakage, no corrosion. In spinning, there are fewer ends down. You get stronger, more uniform yarns.

Proxol undergoes no change when it's on your wool, yarn or fabric. It won't heat up on storage . . . it develops no odors or discolorations. Its safety matches its efficiency.

Try Proxol. Its consistent use means smoother operation . . . greater production.

PROCTER & GAMBLE PROXOL MADE IN U.S.A.

Procter & Gamble
CINCINNATI, OHIO

. . . made by the makers of Olate, the safe, efficient, all-purpose textile soap.

Sustained speeds with fewest stops . . . that's what wins on the Speedway...and in the modern weaveroom, where competition always begins (*and all too often ends*).

In both cases, *dependable* replacement parts ...*readily available*...are often the deciding factor.

And C&K Loom Parts are always dependable, readily available, uniform in quality.

So keep your weaveroom "on the track" and "in the running." When you order replacement parts, order *factory-duplicate* C&K parts that will continue to make it good business to say: "This Fabric is Woven in the U. S. A. . . . on Call-Box Looms built by C&K."

CROMPTON & KNOWLES LOOM WORKS, WORCESTER 1, MASS., U. S. A.
Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

Keep Your Looms Running Right
...with C&K LOOM PARTS

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

TOWER SLASHER

Assures Uniformity!

Installation of a Modern Tower Slasher assures uniformity of product in your warp-sizing operation.

Here's Why . . .

- ✓ Precise control of tension and stretch assured throughout slasher by multi-motor drive and Tower precision rolls.
- ✓ Vibration problems eliminated and perfect alignment assured throughout creel, size box and head end, by structural rigidity of frame.
- ✓ Duplication of correct speed and tension settings for various yarn sheets instantly obtained through precision controls and instrumentation.
- ✓ Rolling and taping eliminated and uniform circulation of size assured by size box design.
- ✓ Uniform temperature throughout size box assured by efficient heating and insulation methods.
- ✓ Thorough cleaning of size box simplified by easy accessibility and rapid dumping.
- ✓ Accessibility of comb to slasher tender improved by head end arrangement.

"Uniform quality control" is built into the Tower Slasher. Production speeds limited only by yarn strength. Now you can produce better warps, faster and at reduced costs.

Southern Representative
IRA L. GRIFFIN AND SON
P. O. BOX 1576
CHARLOTTE, NORTH CAROLINA

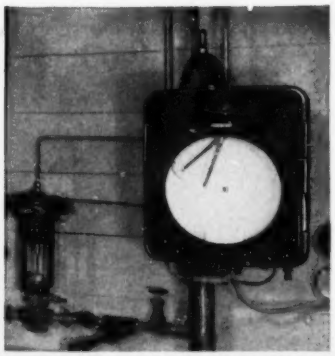
Northern and Canadian Representative
LINDER AND COMPANY, INC.
296 NORTH BEACON STREET
BOSTON, MASSACHUSETTS

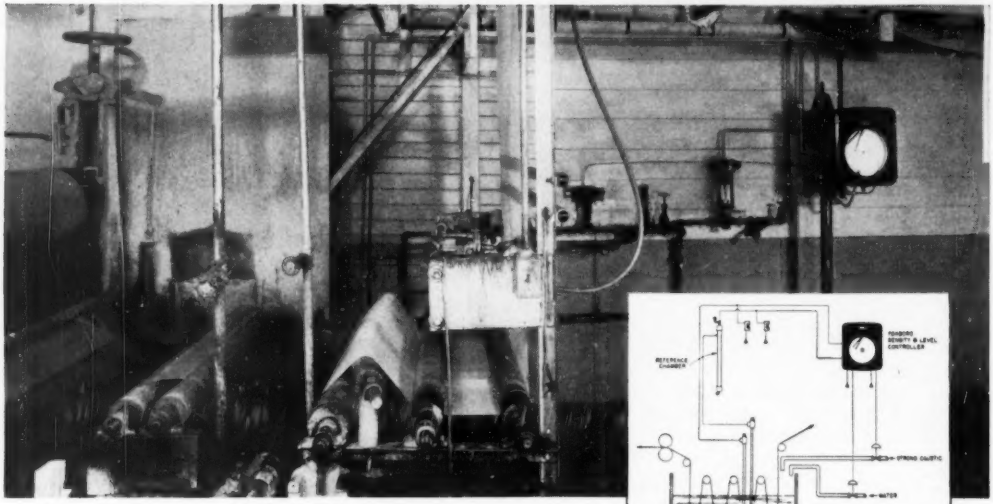
Tower Iron Works

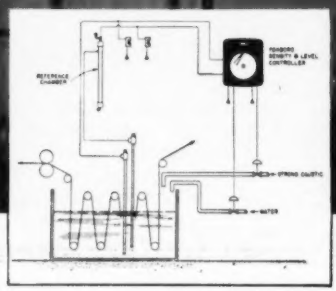
Established 1835

50 BORDEN STREET, PROVIDENCE 3, RHODE ISLAND

New, Improved Automatic Control for Caustic Density...







One of many proven installations is shown above—in a prominent New England Textile Bleachery. Diagram shows how bubble tubes signal density and bath level to instrument which operates diaphragm valves controlling addition of caustic and water.

assures new uniformity in mercerizing

Now you can get continuous top efficiency with uniformly higher quality finishes in your mercerizing operations. In addition to automatic control of caustic strength, the new, improved Foxboro Mercerizing Bath Control also maintains a constant bath volume. Density (calibrated directly in °Twaddle) and liquid level are recorded on the same chart, and controlled by the one instrument.

Completely automatic, this new mercerizing control system eliminates hand hydrometer sampling, log keeping, and guesswork on the part of operators. No matter whether wet or dry cloth is treated, it maintains uniform caustic strength . . . prevents under-processing, saves caustic waste. Caustic savings alone generally repay the installation cost in a few months.

Installation can be made on new or existing equipment without a serious interruption to operations. Maintenance is negligible. Get the complete facts on this automatic, money-saving improvement for your mercerizing equipment. Write **The Foxboro Company, 4812 Neponset Ave., Foxboro, Mass., U.S.A.**

FOXBORO
REG. U. S. PAT. OFF.

RECORDING · CONTROLLING · INDICATING
INSTRUMENTS

FACTORIES IN THE UNITED STATES, CANADA AND ENGLAND

dependability

Your customers turn to you for dependable color uniformity and fastness. You can give them what they want, by using ALTCO wash and light-fast dyes, made with precision control including special electronic equipment. These dependable dyestuffs enable you to produce dependable work!

Whether you're dyeing fabrics for suits or draperies, for dresses or upholsteries, you can use ALTCO on all rayons, mixed fabrics and cottons with security, because they HOLD IN SERVICE. Our service staff is manned by experts with many years of practical Dye House Experience, who will solve your problems in our laboratories or right in your own mill. Call on us!

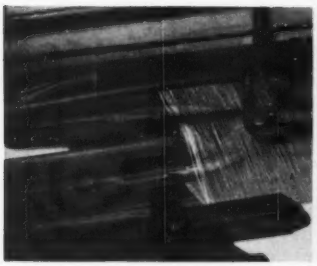
ALTHOUSE
Chemical Company, Inc.
READING, PENNSYLVANIA

Pace-setter in precision dye-making

Here's Exactly what you can See

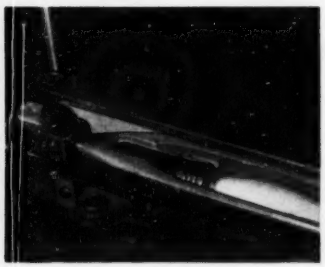
on any Loom

with the New Type 1532-B **STROBOLUME**

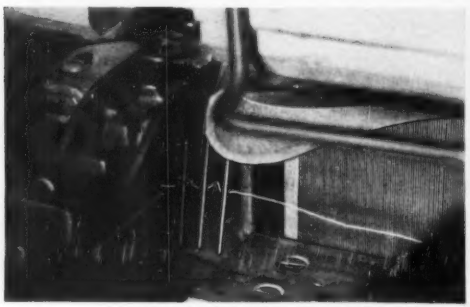


Entrance of Shuttle Into Shed

Flexing of Shuttle Check Strap Just After Picker Stick Strikes It on Forward Motion



Boxing of the Shuttle



Action of Filling In Side Fork Filling Motion

Photo Courtesy Lowell Textile Institute, Lowell, Mass.

With the new Type 1532-B STROBOLUME and the new Type 1535-A Magnetic Contactor, all of these loom operations can be seen just as clearly as they were photographed with this equipment.

In addition, these important motions can be observed, to check their performance or to explain their operation:

Flight of Shuttle — *Behavior of Filling on Bobbin*
Looping of Filling as Shuttle Enters the Shed
Boxing of Shuttle — *Contact of Filling Feeler and Bobbin*
Transfer of Bobbins — *Action of Cutters*
Clearance of Protection
Raising of Parallel Shoe from Parallel
Behavior of Beat Up — *Flexing of Picker Sticks*
Checking of Mesh Gears

In your maintenance and daily operation isn't it of great importance for you to KNOW that all of these motions of the loom are performing properly? The new Type 1532-B STROBOLUME is the answer. Let us tell you why.

Write for a copy of **STROBOSCOPIC EYES FOR INDUSTRY**

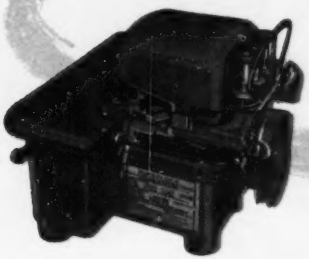
GENERAL RADIO Company

275 Massachusetts Avenue, Cambridge 39, Mass.

90 West St., NEW YORK 6 — 920 S. Michigan Ave., CHICAGO 5 — 1000 N. Seward St., LOS ANGELES 38

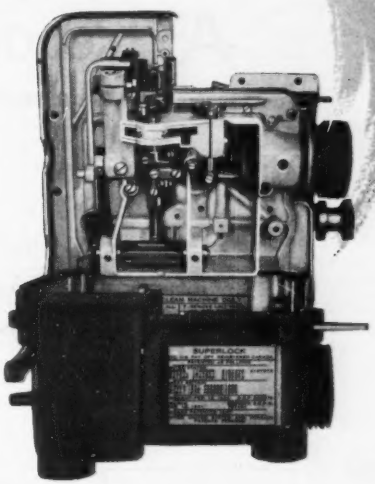
Quick as a flash!

. . . to thread, to operate and to maintain



the W&G "Superlock"

gives you fastest production at lowest over-all cost



For high-speed, *high-quality* overseaming, hemming, edging and serging, you can't beat the W&G "Superlock."

Not only is it one of the fastest machines of its type ever developed—but every detail is designed for *easier* sewing and less down time. Instant accessibility of *all parts* simplifies threading, cleaning and maintenance. And fully automatic lubrication, differential feed control, automatic hem guide control—plus many other time-saving features—permit maximum production with minimum effort and fatigue.

Send coupon below for the complete "Superlock" story.

WILLCOX & GIBBS
Sewing Machine Co.

214 West 39th St., New York 18, N.Y.

Gentlemen:

Please send me a copy of your 12-page bulletin No. 828, on the "Superlock" machine.

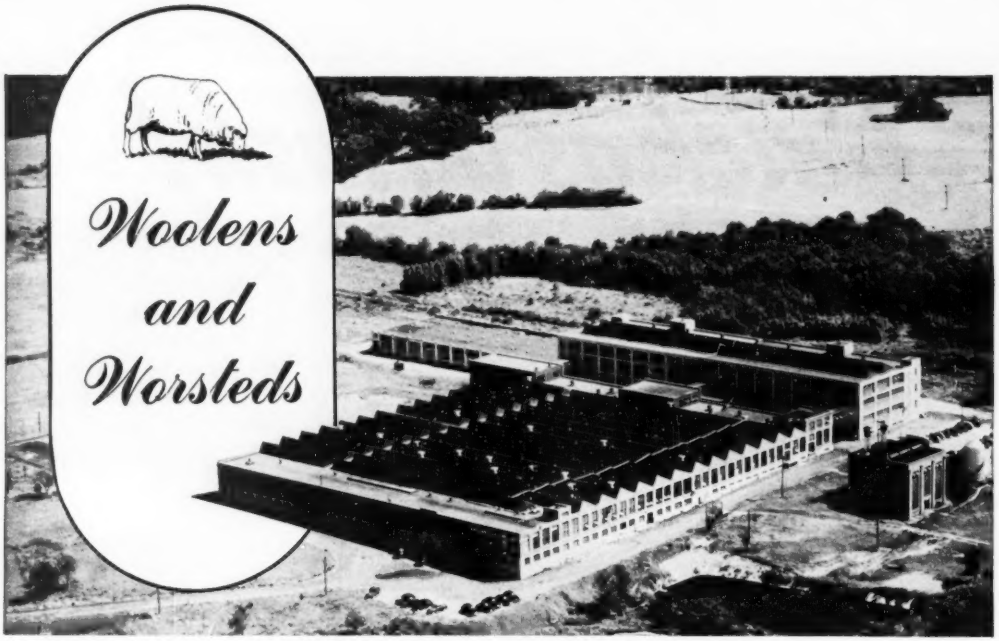
WILLCOX & GIBBS Sewing Machine Company
214 West 39th St., New York 18, N.Y., Dept. K5

NAME .....

COMPANY .....

ADDRESS .....

CITY ..... STATE .....



Branch River Wool Combing Co., Inc., No. Smithfield, R. I.

A Record of Service

as measured by...

Number of Engagements	503
Number of New Plants	41
Number of Major Additions	116
Reports, Appraisals, Studies and Minor Additions	346
Cost of New Plant and Major Additions	over $45,000,000

This is the record of service performed by Lockwood Greene Engineers in the Woolen and Worsted Division of the Textile Industry.

The Woolen and Worsted Division of the Textile Industry presents special problems to the design engineer, working as he is with wide variations in mixtures and manipulation of raw materials, in spinning and weaving methods and in the wet and dry finishing processes. It is a field that calls for versatility as well as sound engineering.

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ARCHITECTS • ENGINEERS

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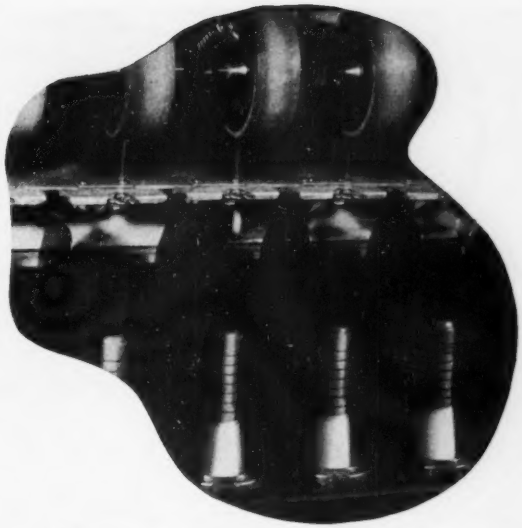
Spartanburg, S. C. Montgomery Bldg.

Now use SYTON with blends

Syton Produces Greater Yarn Strength In Wool Blends



You've already found Syton, Monsanto's silica dispersion, a profit-booster in woolen and worsted spinning . . .

Now . . . mill trials prove Syton just as advantageous with blends. Smooth rayon staple behaves more like serrated wool fiber when Syton is applied to control inter-fiber slippage. And the proof is in the spinning. Sytonized wool-rayon yarn is 10%-30% stronger; and ends down are fewer—and with Syton you can spin finer counts on all blends, or use *less* twist and get equal yarn strength.

These, and other real advantages, mean *many* production savings all along the line—more profit despite rising costs. You'll want to put Syton to work for you . . . in your plant. So send the handy coupon below for full information.

For full information on Syton*, Sterox 6*, and other Monsanto textile chemicals such as Stymer*, for rayon slashing; Merlon* resins for durable finishes; Resloom*, for washability and wrinkle resistance; Sted*, for cleansing and scouring action; Catalyst AC for curing melamine and urea resin finishes; Dye fixatives; Rezgard*, fugitive-type flame retardant—check and return the coupon. *Reg. U.S. Pat. Off.

MILL A—55-45 wool-rayon blend. Applied 1.5% Syton to wool stock; then blended before carding. Front roll speed increased from 105 to 139 r.p.m.—resulting in over 30% increase in production.

MILL B—50-50 wool-rayon blend. Applied 2% Syton, 3% oil emulsion. Stock carded well and was spun to 3⅛ run yarn. Tensile strength increased from 75 to 89 lbs.—a gain of 18%.

MILL C—80-20 wool-nylon blend. Applied 2% Syton, 4% oil to wool stock; then blended with nylon. Overseer attributed improved spinning to uniformity of sliver and yarn.

MILL D—50-50 wool-Dynel blend. Applied 1% Syton, 2½% oil (based on weight of wool) to blended stock. Spun to 6 run. Good control of fibers, smooth, uniform yarn noted.

MILL E—50-50 wool-viscose blend. Applied 1½% Syton, 3% oil to wool; then blended with rayon. Mill had used Syton for 18 months on blends, including virgin and darnetted wool, acetate, viscose, and nylon, with consistently good results.

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CHEMICALS—PLASTICS
SERVING INDUSTRY...WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, Textile Chemicals Dept.,
Desk TIT-37, Everett Station, Boston 49, Mass.

Please send me information on: ☐ Syton ☐ Sterox 6 ☐ Stymer ☐ Merlon ☐ Resloom ☐ Sted ☐ Catalyst AC ☐ Dye fixatives ☐ Rezgard

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Company _____

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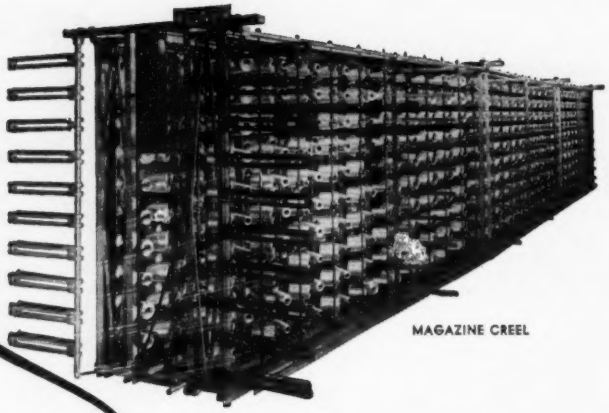
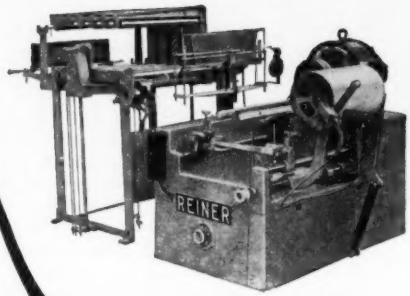


MAGAZINE CREEL

A PERFECT TEAM

—designed to meet the need for speed, quality and economy—the very essentials for perfect production.



SECTIONAL WARPER
Model SW-24 with Yarn Storage Device

REINER CREELS—Magazine, Single Type, Truck or Special Duty—are of the most modern construction, meeting all requirements, suitable for all yarn packages including nylon pirns. Available with mercury contact, electrical drop lever and loom type (drop heddle) stop motions, balloon control, variable pin disc tensions to serve all possible mill needs, from the finest to the coarsest yarns. Many other features are described in our creel catalog—yours for the asking.

REINER WARPERS—Sectional and full width—are of rugged construction —able to withstand the highest speeds and heaviest use. The Reiner automatic yarn storage device is designed to take off yarn from the spool to facilitate repairing of broken yarn ends without disturbing the yarn tension. Sectional warpers available up to 84" in length, with flange diameter up to 30". Shorter models adaptable to multiple spools for the milanese and narrow fabrics trades. Many patented features insure ease of handling, safety and above all—quality warps. For further details ask for our Warper catalog.

To buy Reiner means to have a fully interrelated line of equipment from cone to fabric. It means ready advice and spare part service—in short, the best assurance of profitable and reliable production.

THE REINER LINE INCLUDES:

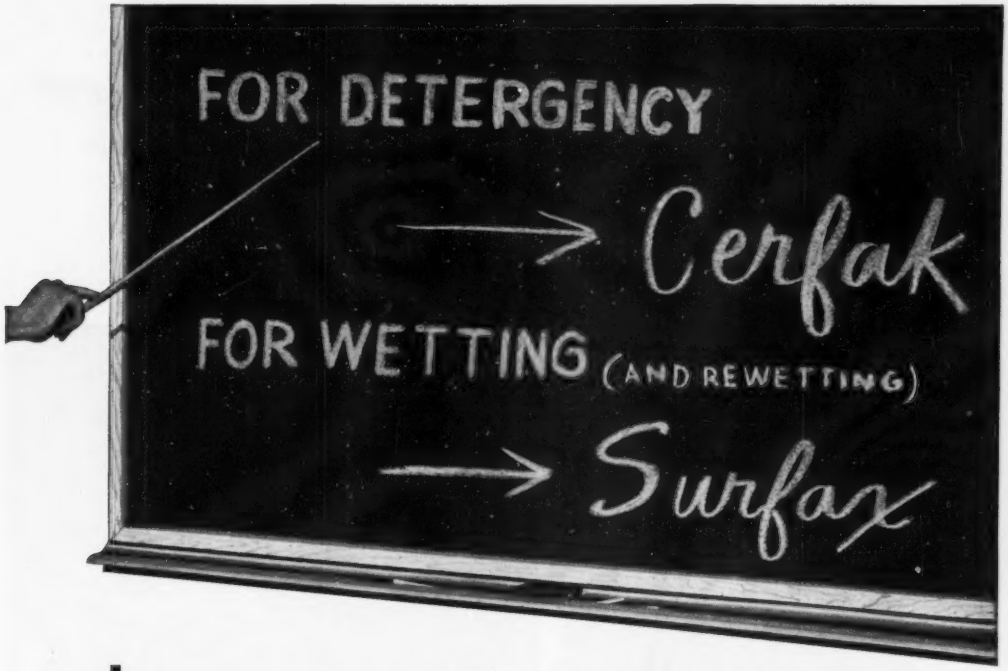
Tricot Machines (2- and 3-bar, 84" and 168")—Simplex (Double Knit) Machines—Raschel Machines—Kayloom Machines—Full Width and Sectional Warpers—All types of Creels—Four Section Full-Fashioned Hosiery Machines (up to 66 gg.)—Automatic Schiffli Embroidery Machines (10 and 15 yards)—Bobbin Winding Machines (for Stitching and Quilting)—Ready Spare Part Service for all Reiner Machines.

FOUNDED IN 1903

ROBERT REINER INC.

550-564 GREGORY AVENUE
WEEHAWKEN, NEW JERSEY

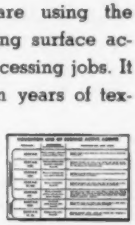
10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882



It's easy to remember... for Wet Processing, rely on these two Houghton brands!

The entire Houghton line of surface active agents is identified by two trade names —"Cerfak" and "Surfax." When *detergency* is the chief factor in your processing, pick one of our seven "Cerfak" products and you'll be right every time. When you want exceptionally good wetting and rewetting power, a "Surfax" agent will solve your problem. In applications where *both* detergent and wetting action are needed, there's a "Cerfak" available for excellent results.

Many textile mill men are using the Houghton Chart in choosing surface active agents for specific processing jobs. It was developed after fifteen years of textile research by Houghton engineers. It will help you choose the agent with detergent and/or wetting properties for any mill application. We will gladly send you one of these charts. Write to E. F. Houghton & Co., Philadelphia 33, Pa.



CERFAK and SURFAX
. . . products of

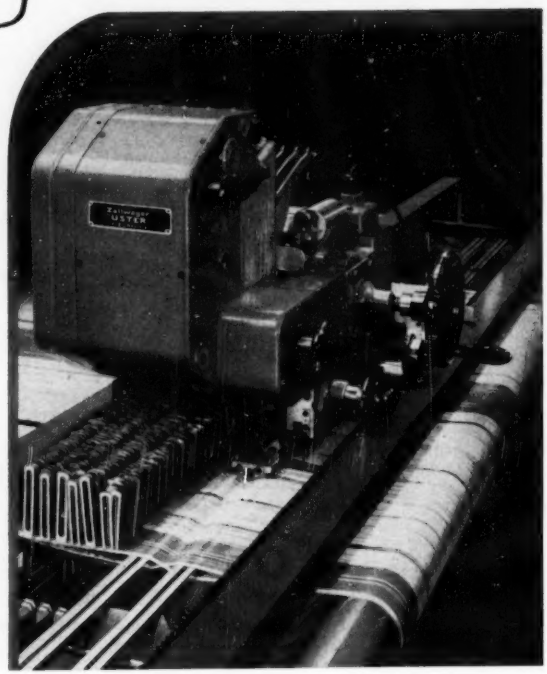
E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .

ASK THE HOUGHTON MAN
to show you how "Cerfak" and "Surfax" concentrated products are improving quality at lower cost for many mills.

ANNOUNCING THE USTER DROPPER

Pins up to 18,000 open drop wires per hour



The Uster Dropper Pinning Machine completes the job 10 to 15 times faster than hand pinning and saves hours of labor and loom-down time. Interchangeable magazines permit it to pin from 1 to 12 banks of open drop wires at 300 per minute.

Makes Open Drops Practical

The Uster Dropper makes it possible for weavers to enjoy the many well-known advantages of open drops without suffering loss of loom production.

Pins Portable or Stationary

Although usually used for pinning on the loom, the Uster Dropper can be used with equal efficiency for stationary pinning away from the loom.

Let us show you how the Uster Dropper can save you hours of labor and down time and permit you to fully enjoy the economy of open drop wires.

In Canada: Hugh Williams & Co., 47 Colborne Street, Toronto, Ontario

USTER CORPORATION • **2516 Wilkinson Blvd., Charlotte, N. C.**

Sales Offices: Boston — Philadelphia — Atlanta

Where quality is the

first consideration in a fabric

there is no substitute for

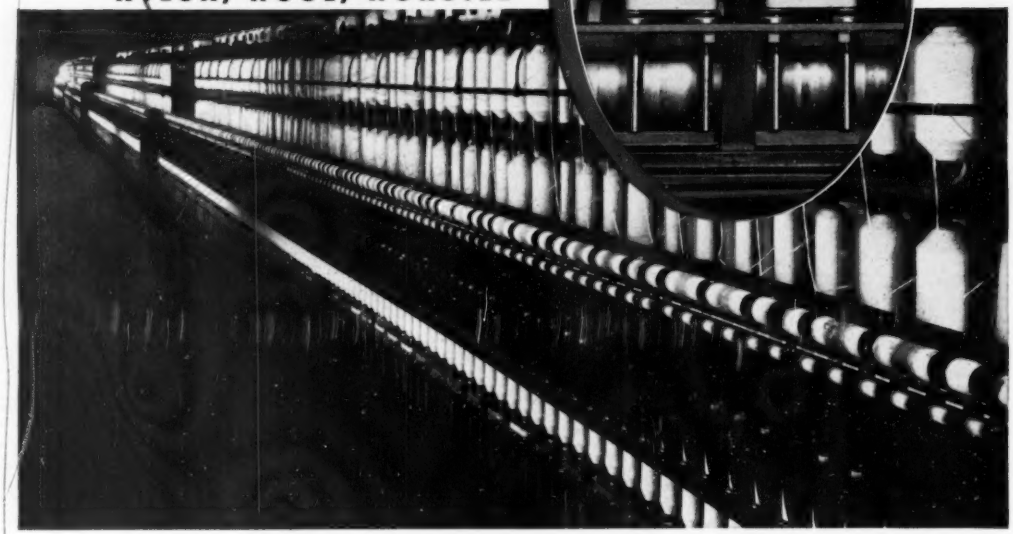
A C E T A T E

the beauty fiber

Celanese CORPORATION OF AMERICA, New York 16

Marquette Roller Bearing Spindles with Full-Floating Footstep Bearing....

FOR COTTON, RAYON, NYLON, WOOL, WORSTED



Starting with a test frame of 264 Marquette Roller Bearing Spindles, this mill now has 20,076 in operation. Compared with the plain bearing spindles previously used, package size has been increased from 7 oz. to 10.8 oz.—*a yarn gain of 54%*. With no change in spindle speed, power consumption has been reduced 12%.

You too can get *more yarn at lower cost* with Marquette Roller Bearing Spindles. We'll be glad to prove this by a test installation in your mill. Contact our home office or one of our representatives.

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The Marquette METAL PRODUCTS CO.
CLEVELAND 10, OHIO

Representatives:
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Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS • FUEL OIL INJECTORS
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • PRECISION PARTS AND ASSEMBLIES

Textile Industries
Vol. 115 • Dec. 1951

News in Brief

Evils of False Labels. The formation of a joint committee to work out some method of stopping the false labeling of carded yarn items as being made of combed yarn has been suggested by Roy Cheney, president, The Underwear Institute. This evil, unfair competition, and fraud upon the consumer, seem to be growing by leaps and bounds, he points out.

Cotton Crimp Meter. A cotton crimp meter has been developed by the fiber research laboratory of the University of Tennessee. The meter is being used in experiments to determine the amount of crimp present in various cotton fibers.

Boys Reelected. At the 26th annual meeting of the Southern Combed Yarn Spinners Association in Charlotte, N. C., George W. Boys, president and treasurer of Green River Mills, Inc., Tuxedo, N. C., was reelected president to serve the association for another term.

Affect of Wool on Blends. According to F. Eugene Ackerman, president, The Wool Bureau, Inc., all prices of apparel, blankets, and a host of other products containing wool inevitably move downward as the wool content of the fabric is diluted with other fibers. New fibers are being judged according to the percentages of the wool with which they are blended. Long before they have reached the public in anything but laboratory test quantities, their outstanding values, both in their own promotion and advertising and in the judgment of retail merchants and of the public, are based on the percentage of wool which they contain, he said. What is occurring is that wool in all blends with other fibers is again—as always in the past—recognized as the "upgrading or quality fiber."

Naumkeag Announces New Fabric. Pequotil is the name of a fabric now produced by the Naumkeag Steam Cotton Co. The cloth is for use in sheets and pillowcases and has a count of nearly 400 as compared to the high of 200 formerly made.

Learner Regulations for Hosiery Industry. New regulations governing the employment of learners in the hosiery industry at sub-minimum wage rates under the Fair Labor Standards Act, have been promulgated. With one exception the regulations are the same as proposals issued last August. The exception is that the occupation of mending in the seamless branch

COMMENTS ON "TAR SPOTS ARE WITH US"

Publisher TEXTILE INDUSTRIES:

I have at hand a preprint from TEXTILE INDUSTRIES, "Tar Spots Are With Us." [TI October 1951, pages 110A-D]

This is constructive.

But I believe that of the many possible sources of the so-called "tar spots" that you have listed, the one that most probably is the major cause is oil-fired heaters, now used by gins more or less throughout the country.

Very few of them are equipped with proper combustion controls, and unless there is a reasonably perfect combustion, there is a deposit of the tar that is inherent in fuel oils. Of course, most of these heaters are supposed to have a combustion chamber seperate from the section over which air is drawn to dry the cotton. However, it is doubtful if any of these heat exchange devices are of such weight and quality to preclude burning through or rusting out. As holes occur in this heat exchanger, of whatever type, then there is the tendency for the unburned tar residue to pass out into the air stream and thereby become entrained in the cotton more or less throughout the bale.

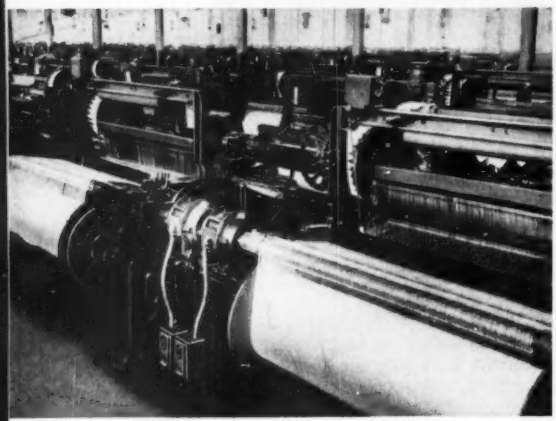
I think you will find that at the Institute of Textile Technology a great deal of attention has been given to this matter of "tar spots," and it is my belief that through that Institute, the probable most prolific source of these "tar spots" was determined. [For story of ITT findings, see page 123 of this issue.]

Just what can be done about it is another matter, but unquestionably there will have to be some major work done to obviate this continuing source of loss.

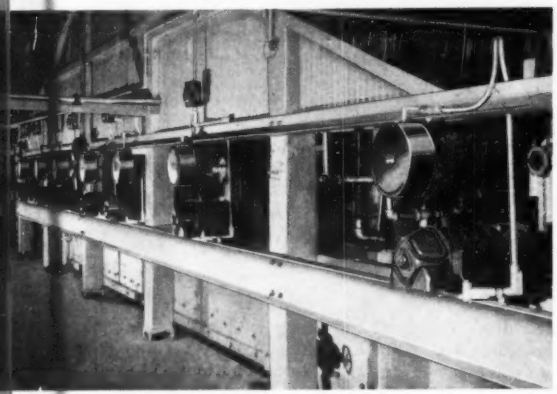
CHAIRMAN OF BOARD

CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY



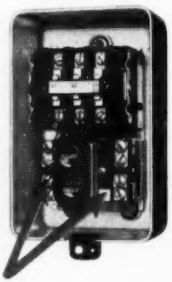
for a LARGE GEORGIA MILL. Cutler-Hammer Loom Switches mounted on double pedestals in the weave room of a well known Georgia mill.



for EDDYSTONE. Cutler-Hammer Dancer Roll Rheostats and Transfer Switches are used on soaper range in this great Pennsylvania textile mill.

CUTLER-HAMMER EUTECTIC ELEMENT OVERLOAD PROTECTION

One of the most ingenious and useful inventions of all time, Cutler-Hammer Eutectic Element Overload Protection accurately duplicates, measures and responds to heating effect produced within the motor. The world's most widely used and the world's most dependable motor overload protection, not only permits the motor to work *closer* to capacity in all cases but to do so in perfect safety. A standard feature of Cutler-Hammer Control.

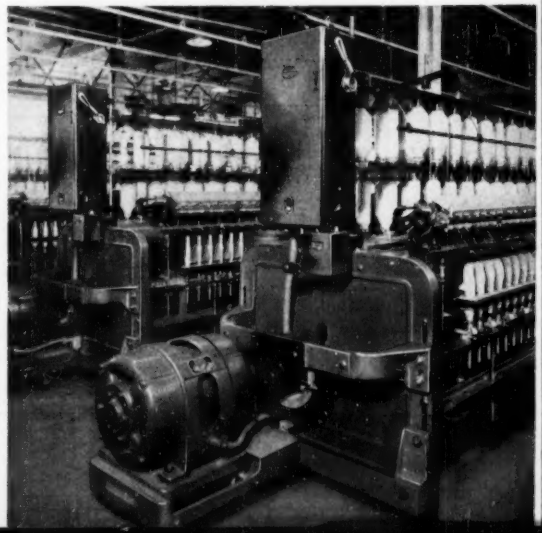


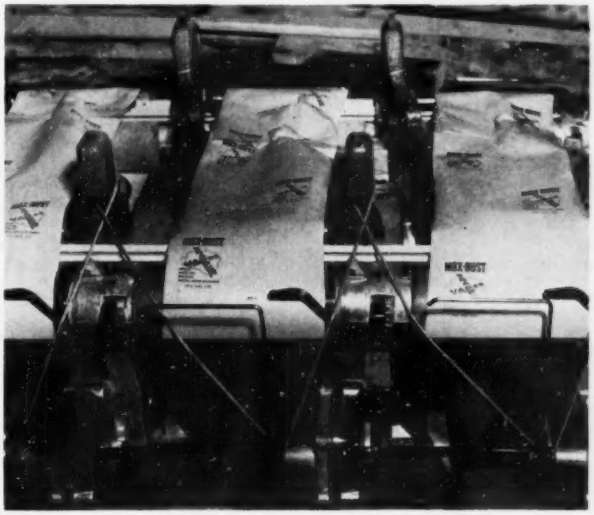
Two things wise management selects carefully

What a foreman is to a crew of workmen, Motor Control is to motors and machines. *Good* Motor Control insures that motorized machines are started properly, sees to it that these machines keep running at the peak of their productive capacities, yet prevents overloading that would lead to breakdown and exasperating, costly delays. And wise management selects *neither* Supervision *nor* Motor Control carelessly, but insists upon the best it is possible to get. 59 years of pioneering specialization in the design and construction of Motor Control has given Cutler-Hammer Motor Control a world wide reputation for performance and dependability. And whether you make exhaustive comparisons for yourself or profit by the experience of other leaders in the industry, your search for the best will lead to but one choice. CUTLER-HAMMER, Inc., 1456 St. Paul Avenue, Milwaukee 1, Wisconsin.

CUTLER-HAMMER
MOTOR CONTROL
C-H

at GREENWOOD. Cutler-Hammer Starters and Shipper Rod Switches on motors operating these spinning frames in the Mathews Plant, Greenwood Mills.





WRAPPER PROTECTS TEXTILE MACHINES FROM RUST

Textile machinery shipped by the Universal Winding Company is protected from rust by a "Vapor Wrapper," a product of Nox-Rust Chemical Corp., Chicago. Here a winding machine is shown partially wrapped with the material, impregnated with the volatile rust-inhibiting chemical called "Callex." Callex inactivates moisture in the air surrounding packaged parts, rendering it non-corrosive. Parts which will be 12 inches or more from inside walls of the shipping crates are protected as shown in the illustration. Remainder of machine parts are protected by Vapor Wrapper sheets lining crate.

is given a learning period of 960 hours. The regulations became effective Monday, November 19, 1951.

Production of Textile Machinery. About 40 per cent of present textile machinery production is for maintenance and repair items, and a projected cut in materials would leave only 10 to 15 per cent of the industry's productive facilities which could be devoted to building new machinery for the textile industry. The textile machinery manufacturers will receive sufficient materials to permit production at about the 1947 rate, according to NPA. Industry spokesmen pointed out to NPA officials that at the beginning of World War II, the government virtually stopped the production of textile machinery and required the industry to convert to direct war production. Then, after the conversion, it was found that production of textile machinery was necessary so the industry had to reconvert to produce its regular product, with consequent dislocations and loss of production.

Picker Stick Check Patented. A patent has been issued to Franklin A. Ritchie, Charlotte, N. C. for a picker stick check for looms. The check may be secured to opposite ends of the lay and has means for frictionally engaging the picker stick upon the shuttle being thrown into the corresponding shuttle box. Other ways are provided to release the pressure of the friction means against the picker stick immediately before the picker stick again throws the shuttle out of the corresponding box and across the lay.

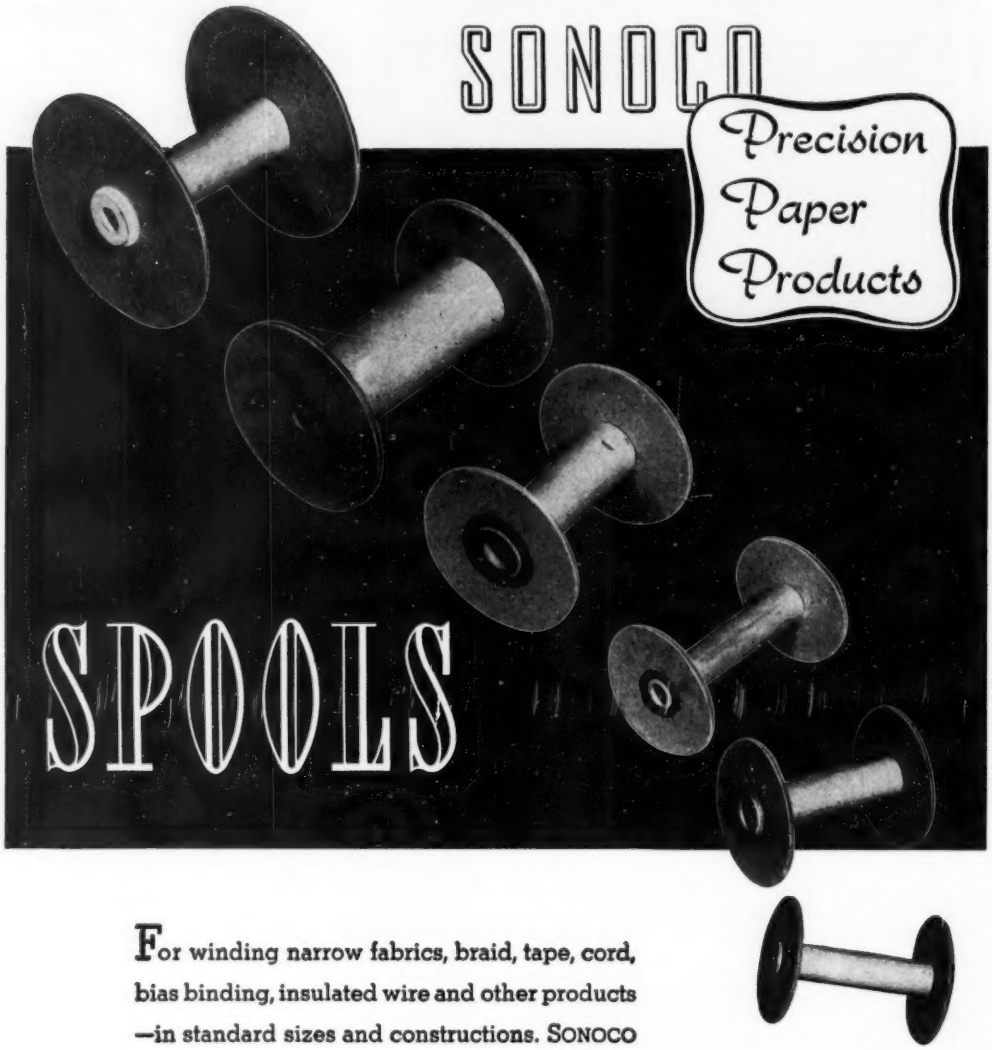
Clemson Awards Honorary Degrees. Twenty-eight of the nation's leaders in industry, engineering, agriculture, and government, who have made important contributions to the progress of South Carolina through their business or outside interests, received honorary degrees from Clemson College on November 3. The degrees were awarded as a part of the dedication ceremonies of the J. E. Sirrine Textile Building, one of the South's finest educational structures.

Silk Hosiery Costs Too Much. The current cost of raw silk is too high to allow any profit to hosiery mills. Despite a possible reduction in silk prices, silk stockings probably will not become a money-maker for the few producers turning them out.

Memorial Medal Award. Professor Edward R. Schwarz, head of the Textile Division, Massachusetts Institute of Technology, received the Harold DeWitt Smith Memorial Medal on October 16. The medal, a testimonial to the memory of the late Harold DeWitt Smith, outstanding textile scientist, is made possible through the generosity of the Fabric Research Laboratories, Boston, Mass., and is awarded at intervals of not less than one year by ASTM Committee D-13.

New Army Winter Uniform. An army experimental winter general wear uniform is of a greenish-gray color and consists of coat, trousers, and service cap. The material is 16-ounce serge blended of 85 per cent wool and 15 per cent nylon.

Armed Forces Blood Donor Program. Collections of blood for the Armed forces are approximately 30,000 pints per week short of requirements to rebuild reserve sup-



For winding narrow fabrics, braid, tape, cord, bias binding, insulated wire and other products —in standard sizes and constructions. SONOCO is also equipped to make spools to specifications of any dimensions or construction.

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SONOCO PRODUCTS COMPANY

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DEPENDABLE SOURCE OF SUPPLY

plies depleted by Korea. American industry, labor, and management, are asked to institute local collection programs in individual plants and local unions.

Yarn Heating Cabinet Patented. A patent has been issued to Fred F. Bahnson of Winston-Salem, N. C., for a yarn heating cabinet adapted to be disposed adjacent to the magazine of a box loom into which a pin board containing bobbins of left twist yarn are adapted to be placed. The cabinet has a hinged door member, on top of which a second pin board filled with bobbins of right twist yarn is adapted to be supported. The interior of the housing is provided with heat to set the twist in the left twist yarn disposed within the housing.

Tufted Bedspreads for Governors. Tufted bedspreads have been presented to the governors of the 48 states as a good-will gesture from America's tufted textile mills. There was one for each governor's mansion in the country, including Hawaii, Alaska, and Puerto Rico.

Color Movie Proved Popular. The fifteen-minute color sound movie "Magic In Nylon," produced by Scott & Williams, Inc., has proved popular, and the company has ordered five new prints to help fill the demand. The film starts with the beginning of knitted silk stockings under the sponsorship of Henry VIII, and continues to the present.

Government Order for Cottons. According to Senator John Stennis (D., Miss.), the armed services are expected to place orders for at least 70 million dollars worth of cotton textiles. The purchases are for current needs and for the mobilization reserve and also include a part of the previously announced duck and webbing pool.

Botany Maintains "All-Wool" Policy. Both Botany and Worsted-Tex clothing will be continued on an "all-wool" policy throughout their entire lines. Speaking at a sales conference, one business leader declared that wool offers the highest dollar-for-dollar clothing investment values and that, without prejudices against any fiber, wool's values justify adherence to an all-wool policy on the part of both firms.

Store Operates Knitting Machine. Munsingwear, Inc., has set up a display which includes a knitting machine in operation in the first floor hosiery department of Younkers of Iowa that has proved to be a "natural" in creating attention and stimulating profitable traffic.

Koreans Need Hosiery Donations. Hosiery manufacturers are asked by American Relief for Korea, a national organization, to donate any kind of usable hosiery, including seconds, thirds, or rejects in whatever quantities available for the destitute people of Korea. Donations should be sent prepaid to 52-15 Flushing Avenue, Maspeth, Long Island, N. Y.

Texas Tech Wants Old Clothes. The museum at Texas Technological College is in need of clothes representative of styles in the late 1800s and early 1900s. The museum plans to exhibit scenes of the 1800s, and the costumes will be used to dress manikins to appear in the scenes.

U. S. Synthetics Studied by Danes. The Danish Institute of Textile Research has sent a chemical engineer to the United States to study the strides made by the textile industry in the use of synthetic materials. The study is designed to aid the effort of the Danish textile industry to raise the quality of its products and lower production costs.

Felt in Fashions. There is a definite trend on the part of designers to use wool felt for winter season feminine apparel. Many women are expressing their approval for new skirts, jackets, capes, sportwear, belts, footwear, and millinery in novel designs, either in felt exclusively or in combination with other materials and accessories.

Proposed Standards for Rayon Fabrics. The American Standards Association has presented the Proposed American Standards for Rayon Fabrics to its Consumer Goods Committee for approval or other disposition. The standards were submitted to ASA by the National Retail Dry Goods Association.

Scholarships for Brazilians. A scholarship program for Brazilian students in the School of Textiles at North Carolina State College provides $1,500 per year for a two-year period of study for the recipients. Firms appropriating funds for the scholarships are: Saco-Lowell Shops, Boston, Mass.; Whitin Machine Works, Whitinsville, Mass.; and the Draper Corporation, Hopedale, Mass.

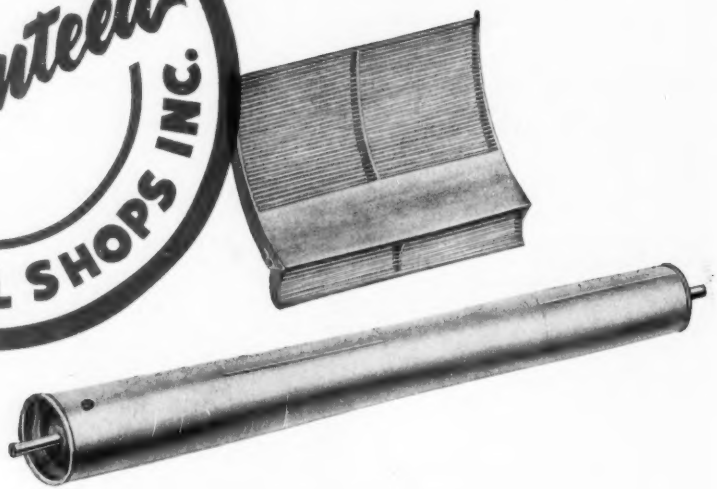
"Hex" Tents for the Army. Tents now being shipped to Korea represent a refinement of the World War II model pup tent. Each tent has six sides and shelters five men in comfort at temperatures down to 95 degrees below freezing. The tents resemble tepees, and ground cloth keeps out cold wind and seals in warm air provided by small gasoline Yukon stove. Overall weight is 56 pounds.

Nylons for Filters. In the center of a window display of women's

(*Continued on page* 219)

WHAT'S BEHIND A JENKINS *Guarantee?*

JENKINS *Guaranteed* METAL SHOPS INC.



When you use Jenkins engineered card screens and spinning cylinders you expect more in equipment performance. You expect greater mill economy.

Jenkins guarantees you'll get it!

Top quality workmanship and materials plus Jenkins exclusive, money-saving features give Jenkins products a *premium value*. Spinning cylinders are dimensionally perfect, balanced and tested for super-smooth operation by the pioneer specialists in dynamic balancing. Card screens are absolutely uniform, with a patented groove construction that insures close, balanced setting to card cylinder. Jenkins' 38 years of engineered thinking mean improved yarn quality, improved production for you.

The guarantee that stands back of every piece of Jenkins equipment you buy is a guarantee to do the job *better* . . . at lower long-range cost!

ALL PARTS PRECISION MADE IN JENKINS' OWN SHOP FOR ABSOLUTE UNIFORMITY

JENKINS METAL SHOPS, INC.
GASTONIA, NORTH CAROLINA
Serving The Textile Industry since 1913

JENKINS
ENGINEERED PRODUCTS

AN EXECUTIVE *Views*

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

A NUMBER of years ago the Department of Agriculture and other interested agencies decided that it was a sin and a shame for bales of cotton to be delivered to the mills wrapped in burlap, a product imported from India. Cotton bagging was more expensive, and to compensate for this, a plan was worked out by which an allowance of seven pounds per bale would be given to the seller of cotton which was wrapped in such bagging. To define what was meant by "cotton bagging," the Marketing Division of the Department of Agriculture issued a specification in 1942 which was known as Form SMA-CD 1200.

This specification laid down in rather specific terms the requirements for the yarn, the type of weave, the width, and the weight. It is relatively clear from reading these specifications that the purpose of this action was to provide a new outlet for the use of raw cotton. As originally constituted, bagging meeting the specification was woven mainly or perhaps entirely by one mill, and, as we recall, it was located in New Orleans.

As a further implementation to the program, the American Cotton Shippers Association and the American Cotton Manufacturers Association added a new provision to Southern Mill Rules which made the granting of the seven-pound allowance mandatory for cotton sales made under these rules.

And now the crux of the matter is that many mills have been receiving bales of cotton wrapped in used cement sacks, camouflage netting, and perhaps other types of second-hand material, and they are naturally somewhat reluctant to pay the seven-pound allowance when the use of the sacks and the netting does not increase the consumption of cotton, but instead decreases its use by providing a substitute.

The Rule. In this day of rules, regulations, edicts, and press releases, you cannot possibly enjoy the game without having a copy of the program which lists the name, number, and weight of each and every player. That is true in the case of the Mills vs. Cement Sacks.

This is the way Rule 37-A of Southern Mill Rules reads:

> "On cotton produced in the United States when wrapped in cotton bagging that conforms, on a weight basis, to the present United States Government Standards for cotton bagging, buyer shall make an allowance to seller of 7 pounds per bale on each and every bale wrapped in cotton bagging. It is incumbent upon the seller that he has made a like allowance in his purchase of the bale."

To the casual layman it would appear that no mill must pay the seven-pound allowance unless the cotton bagging is made in conformity with "United States Government Standards."

That, however, is not the case, because a situation like this was taken to the Southeastern Appeal Board by a southern textile mill, and the board ruled that the mill must pay the allowance. The decision appears to hang on the fact that cement sacks may conform on a *weight basis* to the government standards. The italicized words are, of course, a part of Rule 37-A and may provide some loophole.

The Solution. It appears to your correspondent that the only entirely satisfactory remedy for this problem is the repeal of Rule 37-A. It was passed to stimulate the consumption of cotton which was to be woven into a fabric intended primarily and exclusively for use as cotton bagging. As far as we know, no mills in this country are now weaving such a fabric, and it would appear that the rule long out-lived its original purpose.

To secure its repeal, however, requires the approval of both manufacturers and cotton shippers. The mechanics of securing this approval are rather complicated because committees from the American Cotton Manufacturers Institute and the American Cotton Shippers Association must first discuss the proposed change, and then before any change can actually be made, it must be submitted to the conventions of each organization. Naturally, quite a bit of time is required for this procedure.

In the meantime, about the only solution for the individual mill is to refuse to pay *any* allowance for *any* cotton bagging. This, of course, can be accomplished by simply writing into your cotton contracts such a stipulation.

Taxes, Taxes, Taxes

Have you seen the provisions of the Revenue Act of 1951? If you have not, don't read them. You'll be happier not to know. In lieu of reading the new Tax Act, which most of us can't understand anyway, why not just go fishing, go hunting, or just go?

The sad news is that both corporation and individuals began paying more federal taxes Novem-

Season's Greetings from TENNESSEE

TENNESSEE PRODUCTS & CHEMICAL Corporation

NASHVILLE, TENNESSEE

PRODUCERS OF: FUELS • METALLURGICAL PRODUCTS • TENSULATE BUILDING PRODUCTS • AROMATIC CHEMICALS • WOOD CHEMICALS • AGRICULTURAL CHEMICALS

ber 1, 1951. It has been estimated that the bill will increase annual revenues by $5.7 billion, of which $2.2 billion will come from corporations, $2.3 billion from individual income taxes, and $1.2 billion in excise taxes.

The tax-and-spend boys in Washington say that Americans are now enjoying the highest standard of living the world has ever seen and that we should not worry over the fact that taxes are high and going higher, because per capita incomes are also higher than ever before. In short, they argue that even after Uncle Sam takes his hand out of your pocket, you have more left than you ever had before. They scrupulously refrain from mentioning that what you have left will not buy nearly as much as it would a few years ago.

Neither do they say anything about the fact that never in the history of mankind, including the now lost and forgotten civilization of the Aztecs, has any government amassed such a staggering federal debt as that under which we are now being crushed. No simple layman ever quite understands the federal debt anyway, and one or two fast-talking salesmen have already convinced most of us that the federal debt is only money we owe ourselves and that what you owe yourself you have, and, therefore, the bigger the federal debt, the more you have. They did this very glibly and with such an astonishing amount of brass that they not only convinced the people—they also convinced themselves.

As unpatriotic as it may sound in this day of war bond drives, it is nevertheless an economic fact that the $100 bond you bought in 1941 for $75, will, if cashed, have a tough time buying what the original $75 would have bought then.

The Revenue Act of 1951 is another indication that we have reached or we are approaching the point at which initiative is killed by the parasite vine. However, with one working person out of every eight employed by the government, it is mighty hard to muster enough votes to do anything about the situation. Many times it has been said that nobody shoots Santa Claus. The 1951 tax bill indicates the truth of this old saying.

Let's Worry About Walsh-Healey

As we indicated in the first part of this article, you certainly cannot enjoy the game without a copy of the program. With this thought in mind, we suggest that you secure, if you have not already seen it, a copy of a small leaflet recently distributed by the U. S. Department of Commerce, which is called "Business Information Service — Defense Production Aids, No. 15." This tells in fairly simple language what you have to worry about with regard to the Walsh-Healey Act. If you accept a subcontract and wonder whether you are covered by the Act, then you can get a reasonably good idea of your prospective guilt from this study. There are descriptions of minimum wage requirements, overtime compensation, child-labor restrictions, safety and health standards, and of record-keeping and posting requirements.

As far as we can see, there is no mention of penalties, but you may remember enough about the Act to recall that these are rather severe, and that if you are operating under a government contract you had better inform yourself or you had better write, phone, or wire your lawyer.

Consulting Industry

When the control program of the government went into effect shortly after the Korean War started, there was a great deal of fanfare and beating of drums to the effect that the government was going to utilize the brains and the experience of industry representatives so that this time college professors could keep on being college professors and would not suddenly become steel czars, automotive moguls, and textile magnates. It was found later, however, that most of this was just window-dressing.

If you would like to check this allegation, we suggest that you glance over the last three or four hundred government regulations you have received, and if you do so, you will find with monotonous regularity the following simple sentence:

> "In the formulation of this regulation, special circumstances have rendered consultation with industry representatives, including trade association representatives, impracticable."

We are beginning to feel like the textile friend who told us the other day that he was trying to keep in the good graces of the government in the hope that he might be appointed Commissar for his District.

1952

Jan. 16-19—Plant Maintenance Show, Convention Hall, Philadelphia, Pa.

Jan. 28-29—Annual meeting, National Cotton Council of America, Roosevelt Hotel, New Orleans, La.

Feb. 13-15—Cotton Research Clinic, sponsored by the National Cotton Council, Pinehurst, N. C.

Mar. 2-4—Southern Safety Conference and Exposition, Atlanta, Ga.

April 16-17—Spring meeting, Fiber Society, Clemson House, Clemson, S. C.

April 16-18—Annual convention, Cotton Manufacturers Association of Georgia, Boca Raton Hotel and Club, Boca Raton, Fla.

April 21-25—Knitting & Allied Crafts Exposition, Grand Central Palace, New York City.

April 22-23—Annual convention, National Knitted Outerwear Association, Waldorf-Astoria, New York City.

April 28-29—Annual meeting, National Association of Hosiery Manufacturers; also the Hosiery Industry Conference; Claridge Hotel, Atlantic City, N. J.

May 12-17—National Cotton Week, sponsored by National Cotton Council.

May 15-17—Third annual convention, American Cotton Manufacturers Institute, Inc., Haddon Hall Hotel, Atlantic City, N. J.

May 15-17—Annual outing, Carolina Yarn Association, Carolina Hotel, Pinehurst, N. C.

June 2-7—Annual conference, Textile Institute, Assembly Hall, Edenburgh, Scotland.

June 12-14—Annual meeting, Southern Textile Association, Ocean Forest Hotel, Myrtle Beach, S. C.

June 23-27—Annual meeting, American Society for Testing Materials, Hotels Statler and New Yorker, New York City.

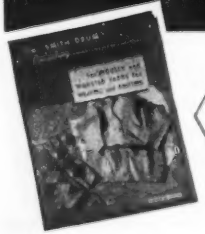
Oct. 6-11—Seventeenth Southern Textile Exposition, Textile Hall, Greenville, S. C.

That's the BIG IDEA of this

SMITH-DRUM

Pulsating Skein Dyeing Machine

This machine introduces the "pulsating flow" principle of dyeing woolen and worsted yarn in skeins. The flow is in the "downward" direction only and the yarn is permitted to *relax* at regular intervals during the dyeing process. As a result, the yarn is not subject to continuous tension or stretch. The strands of the skein remain completely free and the fibers of each individual strand retain their full life and resilience. Yarn dyed in The SMITH-DRUM Pulsating Machine is actually *improved* in both appearance and feel. Better winding qualities of the dyed yarn and uniform dyeing with level shades . . . combined with economy and versatility . . . are among other important advantages you cannot afford to ignore.

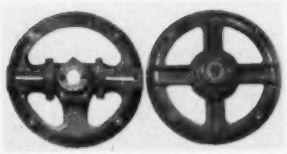


Catalog No. PSD-806 contains complete details of operation. Write for your free copy.

SMITH, DRUM & CO.

ALLEGHENY AVENUE BELOW 5TH STREET
PHILADELPHIA 33, PA.

NEW Equipment AND MATERIALS



CONVERSION END BELL for changing sleeve-type electric motors to anti-friction type is shown at right. Left, original sleeve bearing type end bell. (Keystone.)

Convert Sleeve-Bearing Electric Motors to Anti-Friction Type

Electric motors originally fitted with sleeve-type bearings can be quickly and effectively converted into anti-friction bearing units with ball and roller bearing end conversion bells now on the market.

Furnished completely equipped with bearings, ready to install, these conversion end bells are exact replacements for the original sleeve bearing brackets, the manufacturer claims. Consequently, no machining beyond dressing the shaft for bearing fit is required when installing them.

To insure correct fit, the bearings furnished have bores 1/16" less than the original journal diameters, and therefore the shaft journals must be turned to the dimensions given in printed instructions accompanying each set of end bells. Once the shaft has been dressed it will require no further attention when bearings are replaced, the manufacturer states, since there will be no wear on the journal.

Benefits to be derived from converting sleeve type motors to anti-friction type are reported to be: 50% to 75% saving in maintenance and rewinding expense; sharply reduced failure rate; longer winding and bearing life; greater all-round efficiency.

Conversion can easily be made in mill machine shop.

Keystone Electric Co., Inc., Baltimore 30, Maryland.

For additional data, request item L-401, using business reply card on page 218.

All-Purpose Vacuum

The Wet-Dry Vac is an all-purpose vacuum which quickly removes water from any type floor. Also adaptable for a variety of other uses such as cleaning overhead areas, removing soot and ash from boiler tubes and furnace walls, etc. Comes complete with standard attachments for most cleaning jobs.

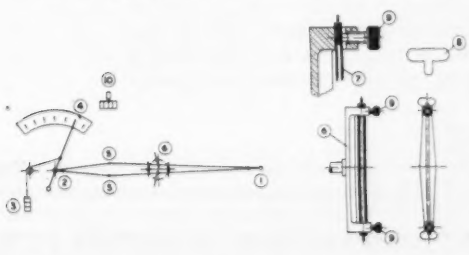
S. C. Johnson & Son, Inc., Racine, Wis. (L-210).

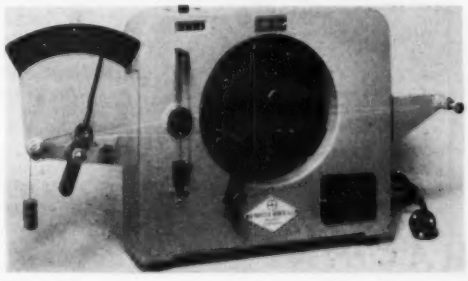
Yarn Tester Imitates Loom Action

In the "Branca" Cohesion Tester an attempt is made to imitate the stresses and strains normally encountered by warp yarns during weaving. It has been reported that the instrument will be of considerable value in comparing the effectiveness of different sizes, size mixings, and treatments on sample lengths of the warp. Of course, it may also be used to examine the behavior of unsized yarn during weaving.

The conditions experienced by two adjacent warp threads in the loom are imitated in the tester, with the important exception of moving the yarn forward after each pick, as would normally be the case in actual practice. Thus, it is not possible to introduce the factor of normal abrasion by the drop wires of the warp stop motion. It is possible, however, that this feature could be added to

BRANCA YARN COHESION TESTER. Key to numerals in sketch: (1) gripper which represents the front loom rest; (2) moveable gripper representing a floating back-rest; (3) variable dead weights to supply the required tension; (4) scale showing the stretch of the yarn by the weights at (3); (5) upper and lower heddle eyes; (6) crank drive; (7) horizontal reciprocating reed; (8) gauge for insertion between reed wires; (9) thumb-screw for setting the gauge (8) in position; (10) pick counter.





Ahead in . . . { 1. DESIGN! 2. PERFORMANCE!

UNION SPECIAL'S
New
Sixty-One-Four
Union Special
SEE IT! TRY IT!
Find out what the new Class 61400 LOCKSTITCH can do for you! See your local Union Special representative, or write for full information.

● *It's a beauty!* Take a look at the "SIXTY-ONE-FOUR," Union Special's new LOCKSTITCH! Sparkling in appearance, it is equally outstanding in DESIGN and PERFORMANCE. For single needle, plain seaming operations, it offers these important advantages:

FAST ACCELERATION! Smooth, effortless operation—new, higher speed—faster starting and stopping to give you every production advantage. New cool-running needle bearings reduce rotary hook and cloth plate temperatures.

PERFECT, UNIFORM STITCHING! Smooth, flat seams even on curves. Positive, yet gentle, feeding action. No feed marks; no cutting.

SUPERIOR FOR TACKING, STAYING! Performance that can't be beat—thanks to superior, scientific thread control.

PLUS THESE IMPROVEMENTS! New neutral taupe finish—smooth, easy to clean. New stitch length indicator—visible, simple, accurate! *Style 61400 A* for light to medium work; *Style 61400 B* for medium to medium heavy work.

Union Special

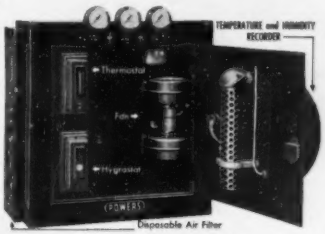
World's Largest Exclusive Builder of Industrial Sewing Machines

MACHINE COMPANY 407 N. FRANKLIN ST. • CHICAGO 10, ILL.

Aspirator Control Cabinet Assembly for Air Conditioning Systems

The aspirator panel assembly shown here is equipped with recording instrument for use where existing air velocities are insufficient and where room air is laden with lint, dust, etc., which would interfere with operating parts of the instruments.

A constant flow of air is provided over the controlling and measuring instruments to eliminate control lags.



For additional information about the assembly, see page 226, TEXTILE INDUSTRIES for November, 1951.

The Powers Regulator Co., 3400 Oakton St., Skokie, Ill.

For additional data, request item L-213, using business reply card on page 218.

NEW Equipment AND MATERIALS

Top Rolls with Nylon Bearing Surfaces

"Cleandraft" nylon-bearing, nonlubricating top rolls are designed for back and middle lines of standard and long-draft cotton spinning. They are produced by a new method which integrally molds nylon at ends and center to contact cap bars and saddles. As a result, these rolls give the anti-friction advantages of nylon, without any special installation requirements.

"Cleandraft" top rolls need no lubrication (Industrial Plastics).

No oiling is needed and cleaner yarn results, the manufacturer claims. Roll picking and cleaning are also greatly reduced.

The usual variety of cot materials is available.

Industrial Plastics, Inc., (subsidiary of Machinecraft, Inc.), 21 Vernon St., Whitman, Mass.

For additional data, request item L-102, using business reply card on page 218.

(*Continued on page 186*)

the instrument, it is claimed.

As for a plain weave, the two ends cross after every pick at a normal rate of 200 picks per minute. These ends are both drawn through the single dent of the reed.

In the accompanying diagram the principle of operation is shown. Note that a pick counter is provided to show the number of picks that the yarn sample has withstood.

Apparecchi Branca, Via Brunetti 14, Milan, Italy.

For additional data, request item L-112, using business reply card on page 218.

Lock Plate Prevents Outside Hooks or Eyes from Turning

A device for preventing outside hardware of loom harness from turning has recently been developed. According to the manufacturer, the lock plate will prevent countless shafts from being ruined due to this turning.

The lock plate not only is simple in construction, but is also easily installed. It consists of a short metal rod shaped to fit the bevel of the frame—one end of which is rectangularly slotted to fit the swaged portion of the hook; the other is simply fastened to the frame with either a screw or nail according to preference.

Once locked in place, the hook cannot be turned at all for the purpose of leveling harness. For that particular function harness adjusters are available, and where outside hooks are used fiber connectors are recommended to save wear.

Steel Heddle Mfg. Co., Philadelphia, Pa.

For additional data, request item L-101, using business reply card on page 218.

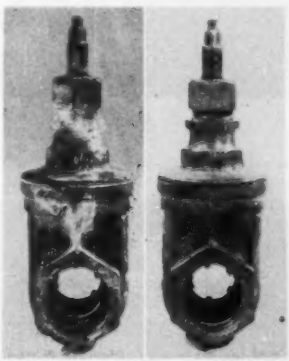
"Cold-Dip" Process for Cleaning Metal Parts

The removal of oil, grease, dirt, carbon, and other foreign matter from valves, gears, sprockets, frames, chains, screens, and other machine parts can be easily accomplished by a simple "cold-dipping" process which is reported to require no attention whatsoever.

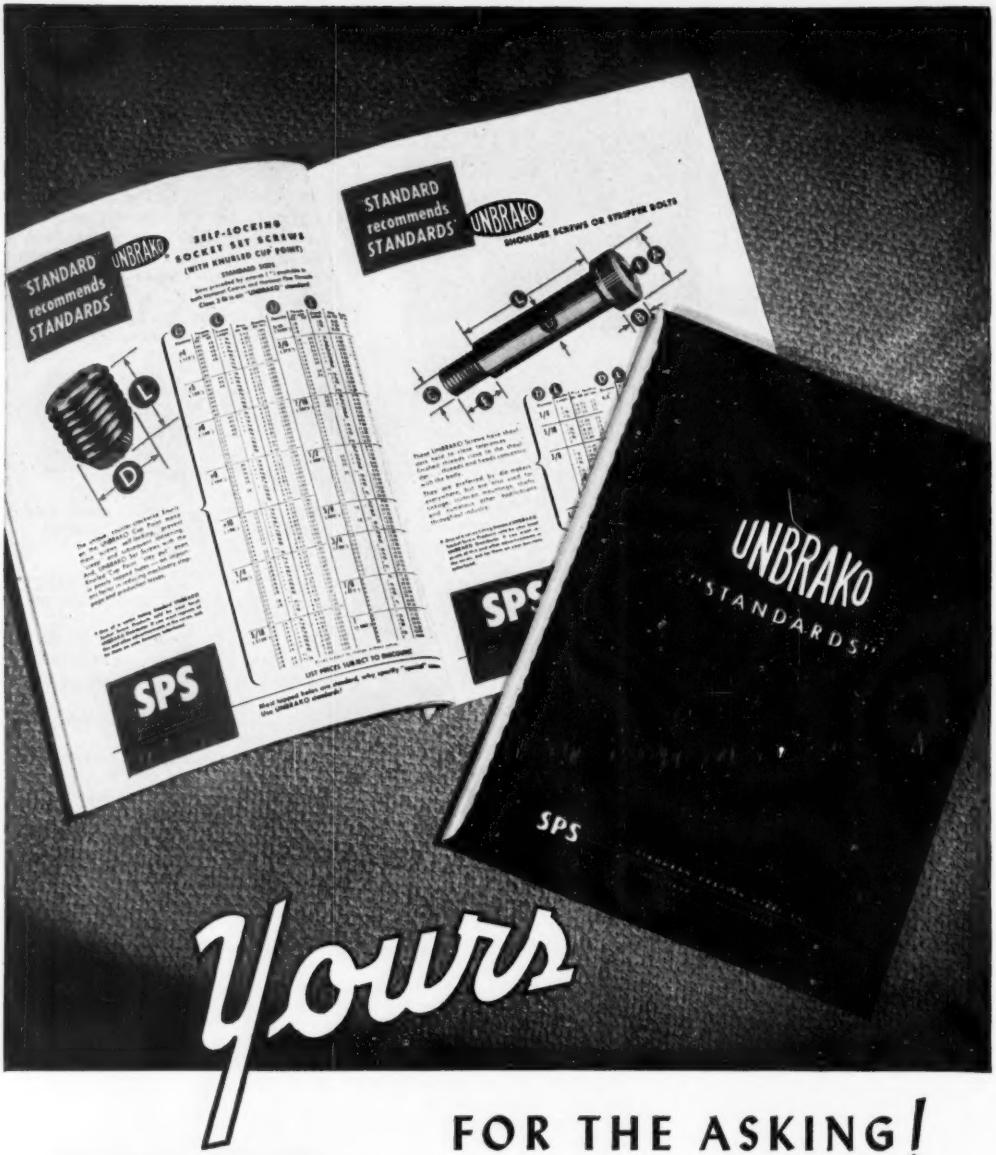
Parts to be cleaned are simply immersed in "Kleenapart" or "Kleenakarb" for the required length of time, then removed, rinsed—and are ready for use or storage.

To illustrate the effectiveness of the products a valve is shown before it was dipped in "Kleenakarb" (left) and after it was removed and rinsed (right).

The Selig Co., 336-350 Marietta St. N. W., Atlanta 1, Ga.



For additional data, request item L-402, using business reply card on page 218.



FOR THE ASKING!

We'd like you to have a copy of Standard's UNBRAKO "Standards"—a complete listing of Standard UNBRAKO Socket Screw Products. Write, today, on your business letterhead.

"SEE OUR ADVERTISEMENT IN TEXTILE CATALOGS"

SPS

STANDARD PRESSED STEEL CO.

JENKINTOWN 34, PENNSYLVANIA

Shorts and Remnants

Merry Christmas!

For each and every one of you our wish is a Very Merry Christmas and a Happy and Prosperous 1952.

Back-Pats for "Tips"

"The section entitled 'Tips on Wet Processing' beginning on page 139 of your September issue was certainly well done. The information given was concise and readily available. The layout was well designed for easy reading. Congratulations on a good job!"

A. J. KELLY
Burkart-Schier Chem. Co.
Chattanooga, Tenn.

" . . . . like very much the various tips and pointers you have outlined in reference to wet processing . . . very well done indeed. . . "

C. NORRIS RABOLD
Director
Chemical Research & Dev.
Erwin Mills
Cooleemee, N. C.

" . . . . most interesting article . . . like very much the method of presentation where you combine pictures and copy . . . most effective in helping me to clearly understand the points. . . . "

ELLIOTT MORRILL
Technical Director
The Best Foods, Inc.
Indianapolis, Ind.

Narrow Fabric

". . . article on narrow fabric looms in April 1951 edition. . . appreciate a reprint. . ."

H. ROSEN
Regal Ribbons, Inc.
200 Gould Ave.
Paterson, N. J.

Referred to TI

" . . . . expect to conduct in the near future a Norwegian training course on production control . . . have written the American Cotton Manufacturers Institute and they have suggested that we contact you for assistance in this request. . . . "

R. A. KEYER
Serge A. Birn Co.
Consulting Management Engs.
Louisville, Ky.

" . . . . National Association of Hosiery Manufacturers suggested that I contact you regarding a system of quality control. . . ."

T. J. HOWARD
St. Catharines
Ontario, Canada.

Index of Articles for 1951

With this issue, as has been TI's custom for a number of years, you are receiving the Index of Articles for January-December 1951. It is not bound into the magazine, but is loosely inserted so that you may file it in a convenient place and refer to it from time to time as the occasion demands.

No, we don't expect you to read the Index at this time because you've already seen this year's issues of TI, but we do suggest that you become acquainted with it so that it can be used handily in the years to come.

The technical articles which appear in TI in many instances contain information of lasting nature, so a file of the magazines will prove helpful in locating needed data. Many textile plants have a library for books and periodicals; should your plant not have one, may we suggest that for a small investment the necessary space and shelves can be had—a corner of the office will do as a start.

If you have not retained your copies of TI and desire to read or reread a special article, the editors will do their best to supply you with clip sheets. When this is impossible or when more copies are needed than the editors can furnish, several organizations can reproduce the pages at a small cost; Bibliofilm Service, U. S. Dept. of Agriculture Library, Washington, D. C., has copies of TI back to 1908 ("Cotton" before 1947) and will be happy to process your order.

"Tar Spots"

"In your October 1951 issue you had an article entitled 'Tar Spots are With Us'. . .enjoyed very much and would like to obtain three more copies if possible. . ."

LAWRENCE ANDERSON
Superintendent
Bourne Mills
Fall River, Mass

". . .state that there is a test available for locating tar in grey goods. . .much interested in this. . ."

R. L. SMITH
Superintendent
Textron Southern, Inc.
Anderson, S. C.

". . . greatly appreciate your sending us . . . six copies of the article entitled 'Tar Spots' . . . ."

GEORGE F. HELM, Sr.
Heineman & Seidman
New York 13, N. Y.

". . . congratulations on special article 'Tar Spots are With Us'. . . would it be possible for you to send us about 24 preprints for our Technical Advisory Committee. . ."

C. MAL BOWDEN
Institute of Textile Technology

". . . feel sure that this report [Tar Spots are With Us] would be of great interest to our members and therefore, we are writing you to ask if it would be possible to receive a good supply. . . . one hundred seventy-five copies. . for distribution. . . ."

ALICE C. MOORE
Secretary
National Assn. of Finishers of Textile Fabrics
40 Worth St.
New York 13, N. Y.

"All of us are indebted to you for the splendid coverage which you have given to a pressing problem in 'Tar Spots are With Us.' As your article so well indicates, the problem of tar spots is creating serious difficulties on a wide front and certainly merits the most careful attention. . . your story on the subject is the most comprehensive and helpful one that I have seen. ."

ROBERT C. JACKSON
American Cotton Mfrs. Inst.
Charlotte, N. C.

Wear Resistance

Consider the amount of resistance a needle must withstand — from wear, from stresses. That is why every step in the manufacture of Textile Spring-Beard Needles is carefully calculated to give you needles that are outstanding for wear hardness and resistance.

Wear resistance is only one of the advantages you get from Textile's quality controls — automatic and electronic. You get needles that are better — in performance and in profits.

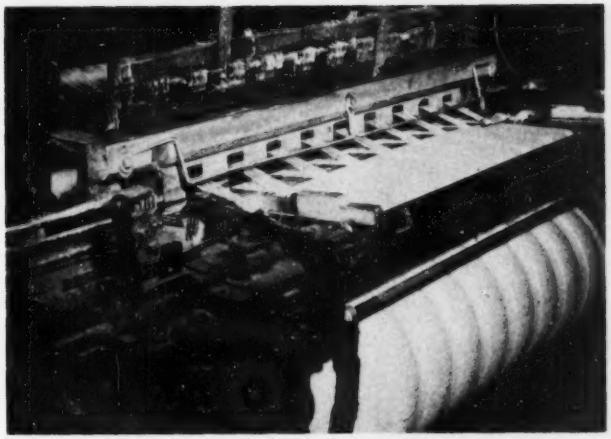
TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full-Fashioned Knitting

For Tricot Knitting



NO SPECIAL EQUIPMENT is needed on looms used to weave decorative fabrics. "Fragile," one of Itasca's popular decorative fabrics, is woven with only half the usual warp ends.

How a Texas mill, making duck and drill, built up a profitable novelty fabric business when the going was tough

Duck Mill Makes Novelty Fabrics

Staff Prepared

EXCLUSIVE

ITASCA Cotton Manufacturing Co., located in the little town of Itasca, Texas, is a 10,000-spindle duck mill which produces good quality duck, drill, and heavy sheeting, and sells it through Reeves in New York. As a duck mill it is no more widely known than any of a hundred other such small mills located anywhere from New England through the Gulf states.

But Itasca is widely known.

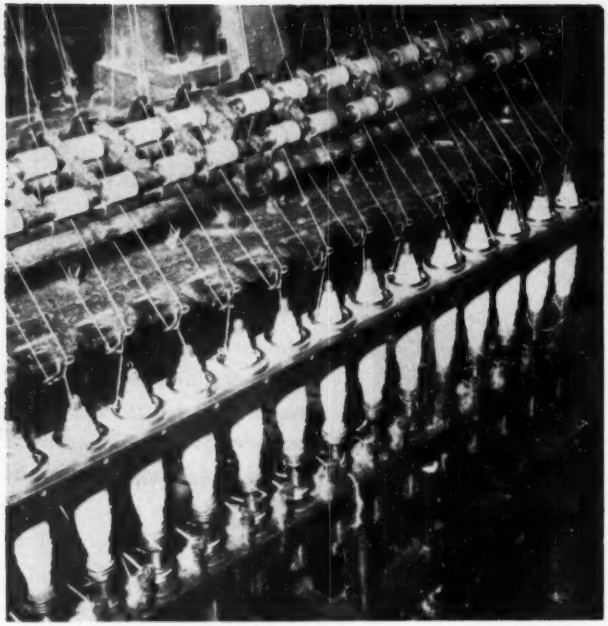
Open almost any woman's or home magazine, and there is an ad for Itasca fabrics—not the ducks, drills, or heavy sheetings, but quality decorative fabrics sold directly from the mill at mill store prices.

Itasca's fame in the decorative fabrics field rests on just a few looms, a relatively small portion of the total output. The looms make some of the country's most beautiful cotton fabrics of unusual design, suitable for use as draperies, upholstery material, slip covers, and table cloths. More than a hundred thousand customers are on the mailing list. A majority of the decorative fabric business is by mail order. Prices, incidentally, are very low.

The specialty looms are not different from the other looms used for duck, drill, and heavy sheeting—40-in. Draper K's with a few modified D's. The unusual fabrics are the result of skill and ingenuity rather than special equipment. For example, most of the twisting to make ratine yarns, the basis for many of the unusual fabrics, is done on a converted spinning frame. The middle roll is removed from each of the three-roll, short draft units on the frame, and ratine is twisted by running a heavy yarn through the back rolls and a fine yarn through the front. Having the back rolls turn at a faster speed twists a ratine yarn. On the same adapted twister, several other types of special nep and nub yarns are made.

Heavy yarns are spun for the regular mill product, but low numbers are made also for the specialty fabrics. One of the ratine type yarns is made with a high twist roving used for the heavy center yarn. Although such construction could never win any awards for strength, it holds up well when woven as a filling for a fancy new decorative fabric called "Shag."

Weaving. The cam-controlled Draper K is hardly classified as a fancy fabric loom, but Itasca has made it do some real tricks. One of their most interesting and popular fabrics is called "Fragile," and it is woven with less than half the full number of ends in the warp. In threading the reeds, warp ends are run through in the regular manner for about three inches; then no ends are threaded at all for the next three or four inches. The pattern is repeated the full width of the cloth to produce a construction which is about 80% filling. The "Fragile" type of weave hangs in attractive loop folds when hung as a drapery, and it is said to hold up well in laundering and requires no ironing.



CONVERTED SPINNING FRAME is used at Itasca to twist ratine yarns. The middle roll is removed from each of the three-roll, short draft units on the frame.

Altogether, Itasca weaves about 34 different constructions in decorative fabrics, varying the filling colors to make over a hundred different styles. Some of the weave patterns appear as though they may have come from a simple Jacquard design.

Color. No dyeing is done at Itasca. The yarn is shipped away to be package dyed. One of the most popular shades is provided by nature. The color is called "Red Tinged" and is made of a naturally red cotton from Texas. Most mills reject such cotton as stained. The mill superintendent stated that the red color is probably the result of what most mill men would call weather damage—caused by frost catching the cotton before it is fully mature. In any event, the cotton does have a distinct reddish color, and the cotton buyer purchases it for just that reason. The mill would like to find "Green Tinged" or "Blue Tinged" cotton so it would not be necessary to have any yarns dyed.

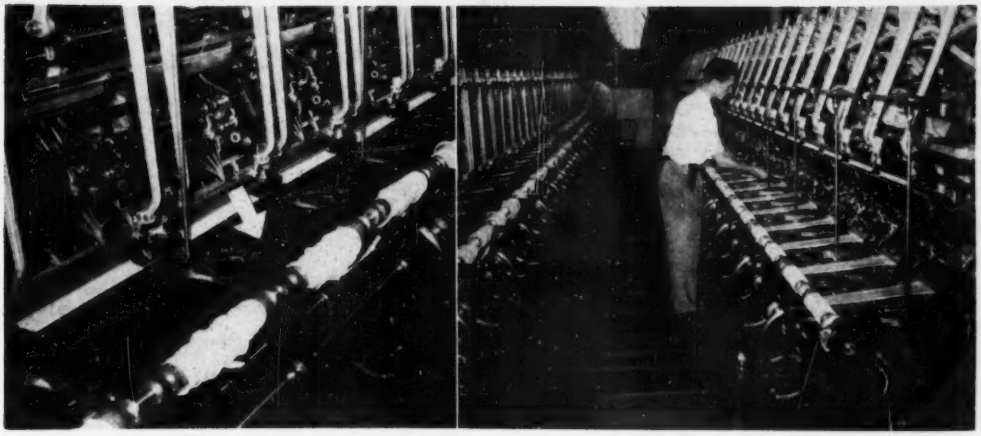
How it Started. The specialty business in a duck mill did not start with someone suddenly having an idea that K looms could do fancy work. When the depression struck in the early thirties, there was little demand for ducks and other regular fabrics manufactured by the mill, and the retail demand for novelty fabrics had not developed.

While selling the mill's output at wholesale, it had been necessary to weave many samples for customers and salesmen, and considerable yardage was left over from the sample bolts. Sidney J. Files, manager of the mill since 1914, took the plain osnaburgs, crashes, and ratines off the shelves and offered them to local housewives and interested Home Demonstration Agents at practically give-away prices. That started the specialty business.

Housewives liked the practical, strong cotton weaves for curtains and table cloths, and letters started coming in from women in nearby towns wanting more. Ella Pierce was hired to answer the letters and give the women ideas and information about how to use the plain weaves in their homes. Popularity of the fabrics grew, and soon all the surplus yardage was sold. It did not take long for the company to see that a mail order business would be a profitable sideline—so in 1936, Mr. Files organized the Itasca Weavers Guild, and a national advertising campaign was started. Free samples of the fabrics were sent to many in response to ads in leading women's magazines.

The idea proved profitable in operation, and the business has expanded. Realizing that just seeing a few samples is not enough, a showroom has been opened in Dallas, and plans are now under way to open showrooms in other principal cities. The mail order business is still the larger, however, and it is all done with coupons clipped out of magazines, for which the ladies receive a sample of each fabric and a book on home decoration.

SHIPPING ROOM where orders are filled for housewives all over the country. Most of Itasca's novelty fabrics are sold by mail order through magazine advertisements.



BLACK VINYL PLASTIC aprons installed on one machine (see arrow at left). Green plastic aprons are installed on machine at right. Press-offs come in contact only with the smooth surface of the aprons.

Plastic Aprons Reduce Seconds

made at full-fashioned knitting machines

Less soiled and damaged work is produced in Louisiana hosiery mill as a result of machine tables being covered with mill-made aprons.

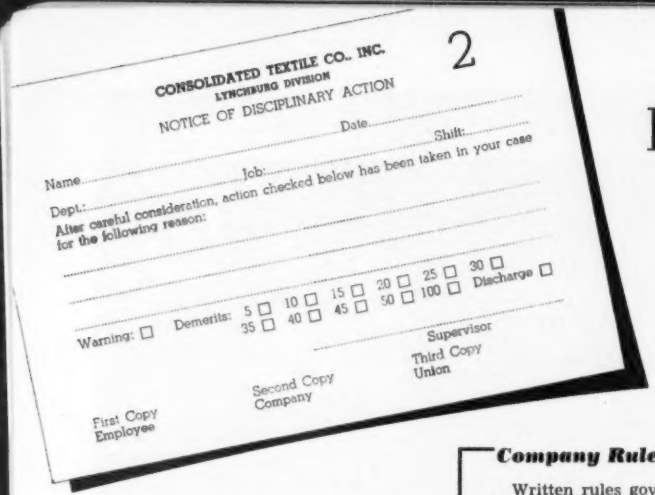
EXCLUSIVE

Staff Prepared

ON NEW 51 gauge, 32-section Karl Lieberknecht full-fashioned machines at The Alden Mills, New Orleans, Louisiana, aprons are placed across the machine tables at each knitting head and under the stockings being knitted. The aprons are made of vinyl plastic material, and they prevent the work from falling on shafts and other moving parts of the machine when the press-off is made and prior to starting a new stocking. When the completed stocking is freed from the knitting head, sometimes seconds are made, and damage is caused by dirty oil getting on the hose. Also, snags and pull threads may be caused by contact with the machine parts.

Hose rubbing on oily parts of the machine, such as the table, get soiled and snagged. Knitters sometimes put tools on the table, thereby aggravating the condition and causing additional bad work. The plastic aprons have satisfactorily solved the problem in that the press-offs come in contact only with the smooth surface of the aprons prior to being removed from the knitting machine.

The plastic aprons were made in the mill and are equipped with snap fasteners to attach them onto the front control rod. The aprons extend over the table and are fastened to a piece of wood which is bolted under the table on the back side. The knitters in this mill are well pleased with the arrangement and claim that less soiled and damaged work is produced as a result of the installation.



CONSOLIDATED TEXTILE CO., INC.
LYNCHBURG DIVISION
NOTICE OF DISCIPLINARY ACTION

2

Name..... Job:..... Date..... Shift:.....

Dept.:

After careful consideration, action checked below has been taken in your case for the following reason:

Warning: ☐ Demerits: 5 ☐ 10 ☐ 15 ☐ 20 ☐ 25 ☐ 30 ☐ 35 ☐ 40 ☐ 45 ☐ 50 ☐ 100 ☐ Discharge ☐

Supervisor

First Copy Employee

Second Copy Company

Third Copy Union

Demerit System

solves discipline problem

By VERNE BOBBITT
Personnel Director
Consolidated Textile Co., Inc.

EXCLUSIVE

PERFECTION can only be an aim, and certainly none of us have ever approached that goal in industrial relations work, but we are now using a new method for dealing with our disciplinary problems which has the advantage of working successfully.

As with many other plants, we had long had the problem of deciding how to discipline for infringement of company rules. This is a troublesome task calling for reasoning and judgment in any mill; the task becomes more than troublesome when the plant is unionized and you know that every disciplinary decision is going to call for grievance procedure.

Many times, before we started with our new system, we found it necessary to let employees go for what we considered major infractions of company rules, only to have the employee reinstated after arbitration. Obviously, we did not see rule violation in the same light as the union.

To clear up the situation, we designed a demerit system to handle all cases requiring discipline. To date, we have not had a dismissed employee reinstated, and grievances have been reduced to a minimum since we have had the demerit system in operation. Still better, we have had far fewer rule infractions, minor or serious. Every employee of the company and every new employee is given a copy of a small folder called "Company Rules Governing Conduct of Employees." This folder not only lists the rules but fully

Company Rules Governing the Conduct of Employees

Written rules governing the conduct of employees, and the discipline applicable in case of violation thereof, while inside the plant lot are set forth below. The commission of any of the following acts is prohibited.

Rule No.		Cause for Discipline	Disciplinary Action
1.	(a)	Failure to carry out instructions of supervisors.	One written warning then 15 Demerits for each offense thereafter.
	(b)	Refusal to carry out instructions of supervisors.	100 Demerits.
2.	(a)	Wilful destruction of or damage to property of the Company.	100 Demerits.
	(b)	Wilful destruction of or damage to property of any employee of the Company.	100 Demerits.
3.	(a)	Entering the plant lot under the influence of an intoxicant or narcotic.	100 Demerits.
	(b)	Attempting to enter the plant lot under the influence of an intoxicant or narcotic.	25 Demerits for each offense.
	(c)	Possession of an intoxicant or narcotic while in the plant lot.	One written warning then 25 Demerits for each offense thereafter.
4.	(a)	Entering the plant lot without proper identification and permission.	One written warning then 5 Demerits for each offense thereafter.
	(b)	Attempting to enter the plant lot without proper identification and permission.	One written warning then 5 Demerits for each offense thereafter.
5.	(a)	Engaging in fighting within the plant lot.	100 Demerits.
	(b)	Indecent conduct (clothing) within the plant lot.	100 Demerits.
	(c)	Immoral conduct (matters pertaining to sex) within the plant lot.	100 Demerits.
	(d)	Abusive conduct (obscene language) to supervisors within the plant.	One written warning then 100 Demerits for next offense.
	(e)	Abusive conduct (obscene language) to other employees within the plant lot.	One written warning then 50 Demerits for each offense thereafter.
	(f)	Engaging in "horseplay."	One written warning then 25 Demerits for each offense thereafter.

Rule No.		Cause for Discipline	Disciplinary Action
6.	(a)	Leaving job to go to other parts of plant or outside without permission, except to Canteen for a short period of time.	One written warning then 5 Demerits for each offense thereafter.
7.	(a)	Leaving machine or respective job until change of shift signal is given, unless otherwise instructed by supervisor.	One written warning then 5 Demerits for each offense thereafter.
8.	(a)	Wilful interference with other employees in the performance of their duties.	One written warning then 50 Demerits for each offense thereafter.
9.	(a)	Starting or stopping work before regular scheduled time, without permission.	One written warning then 5 Demerits for each offense thereafter.
10.	(a)	Circulation of petitions, and solicitation or collections of contributions, donations, etc., during working hours, unless previously authorized by Department Superintendent.	One written warning then 5 Demerits for each offense thereafter.
11.	(a)	*Smoking* is *strictly* prohibited in plant, or plant yard, except in toilets or dressing rooms adjoining toilets. The privilege is granted with the understanding that it will not be abused or interfere with production.	One written warning then 50 Demerits for each offense thereafter.
12.	(a)	*Time Clocks.* Punching another employee's time card, or falsifying time card records in any way.	One written warning then 100 Demerits for next offense.
13.	(a)	Sleeping while on duty.	One written warning then 100 Demerits for next offense.
14.		The following disciplinary action will be taken in cases of absenteeism: (1) When any employee is absent from his job for any reason *without* proper notification to Company. (2) When any employee is absent from his job for causes which do not appear to the Company to be reasonable and proper even though *with* proper notification to Company. NOTE: Proper notification to Company is by telephone to front gate or personal notice to front gate not later than the end of the shift on which the employee was absent.	
	(a)	Absent for one day.	20 Demerits.
	(b)	Absent two consecutive days.	25 Demerits.
	(c)	Absent for three consecutive days.	30 Demerits.
	(d)	Absent for four consecutive days.	35 Demerits.
	(e)	Absent for five consecutive days.	40 Demerits.

Over 5 days absent without written leave or proper notification to Company by telephone or written word, employee loses seniority according to terms of contract.

Any 100 Demerits during any *six months* period employee is discharged.

All discharges, Demerits, and warnings must be in writing on proper forms with copy to employee and copy to Union.

Excessive absenteeism with or without notification, employee shall be subject to discharge.

describes the disciplinary action which will result from rule infraction. (See accompanying box.)

A specified number of demerits is given for each offense. A total of 100 demerits means dismissal. When demerits are given the employee, the union, and the personnel department get a copy. (See form on opposite page).

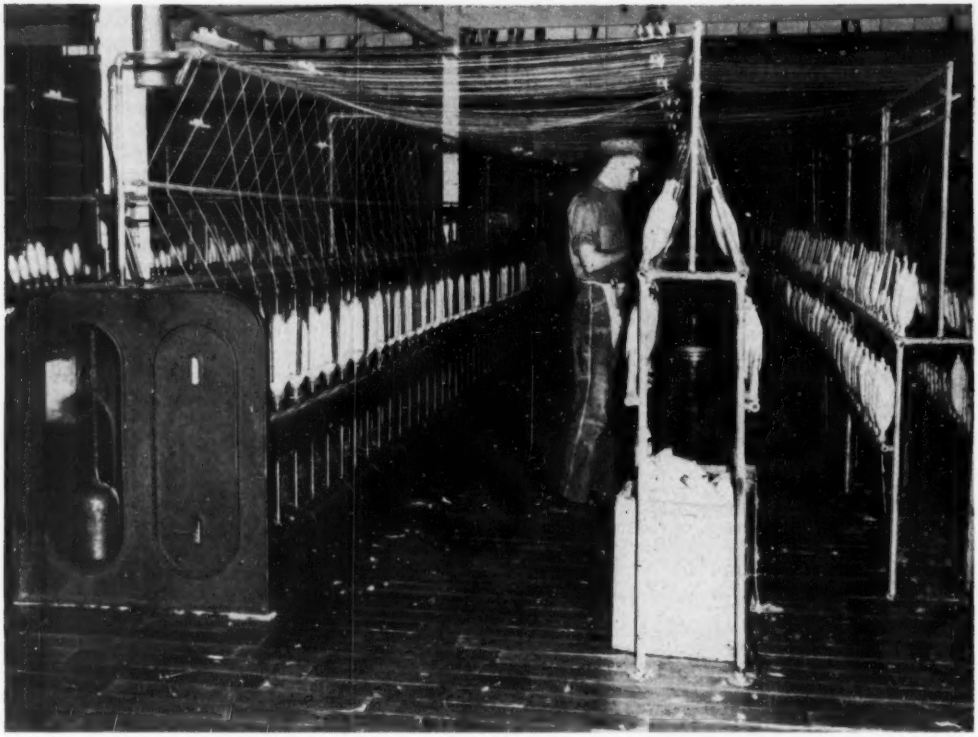
In many instances no demerits are given for the first offense. Instead the employee receives a written warning of which the union and the personnel department receive a copy. This is clearly explained in the folder. Also, when an employee has accumulated 60 demerits, he is called into the personnel office, and his status is explained. His overseer is also informed. When he has 80 demerits to his discredit, both the employee and his shop steward are notified in writing.

Any time an employee goes over six months without a demerit, all demerits received prior to the period are cleared off. In fact, all demerits over six months old are wiped off, so no one is dismissed unless he collects 100 demerits in a six-month period or less.

It is never possible to be certain as to the real reasons for success of programs of this type. We think a great part of our success here lies in every man knowing just where he stands so far as his conduct is concerned. Not only does he know, but his union knows too, and they are cooperating with management in what we all feel is a fair and clearly understood arrangement. When a man gets close to the borderline, we all know it, and both his superiors and his union are in a position to warn him and get him back into line.

Certainly, this new method is far better than our old method of suspending a man for a certain number of days for rule infringement. When we used that method, a rule breaker not only lost his pay for a few days, but we lost an employee. And unions are particularly resentful of discipline which takes away from a man his right to work.

We feel that we have solved, to some extent so far as our mill is concerned, one of the many industrial relations problems.



COTTON YARNS ARE PLIED on this slubber which has been converted to a twister by the procedure described here. Supply packages are brought directly from spinning frames and placed in improvised magazine creels shown at right. Note way in which yarns are drawn over operative's head and into flyers for winding onto bobbins.

Slubbers Make Good Twisters

Staff Prepared

EXCLUSIVE

SO THAT conventional twisting machinery at Veteran Mills near Calhoun, Ga., might be utilized entirely to process large orders for plied yarns and to make the handling of small orders more profitable, several 1927-model 12″ x 6″ slubbers were purchased and converted to twisters.

Not only did this move relieve the pressure on the production facilities at this cotton mill; several other benefits have been realized:

(1) There are no plied yarn knots in the full bobbins; consequently, there are no plied yarn knots in the precision wound package made from these bobbins. (Of course, there are knots in the singles yarn where the tail of one bobbin is tied to the end of another.)

(2) Larger packages can be made on these slubber-twisters than on conventional twisters.

(3) The number of different types of plied yarns that can be processed at one time is limited only by the number of spindles on the fly frame.

Converting Procedure. Here is the method by which Veteran Mills convert a slubber to a twister:

First, the entire drafting mechanism, including the stands, is removed. In other words, the machine is stripped down to the roller beams as shown in the accompanying photos.

Second, the direction of rotation of the electric driving motor is reversed in order to change the di-

rection of rotation of the spindles and bobbins to produce a left or "S" twist. Otherwise, the slubber would impart a right or "Z" twist to the yarn processed on it.

Third, so that the builder motion will not be reversed, an intermediate gear is added to the train of gears between the twist change gear and the top cone gear (see photo at right below).

Finally, a magazine creel, equipped to accommodate spinning bobbins as illustrated here, is built in the mill shop and placed behind the machine.

Note that no special parts are required for this conversion.

Improvised Magazine Creels. Construction details of the magazine type creels built in the mill shop are shown in the accompanying sketches. As can be seen, they are simple and easy to make.

A unique component of the creel is the device for controlling tension on the single yarns as they are drawn from the spinning bobbins into the flyers and twisted. The tension device is made from ordinary perforated extension bar type pipe hangers about ¾" wide. The perforations serve as a guide

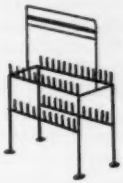
How to Convert a Slubber to a Twister

1 **Remove entire drafting mechanism, including stands**

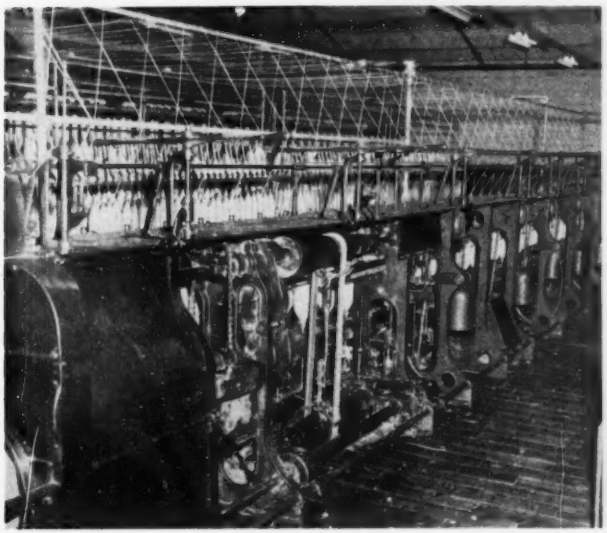
2 **Add intermediate gear to train of gears between twist change gear and top cone gear**

3 **Reverse direction of rotation of driving motor**

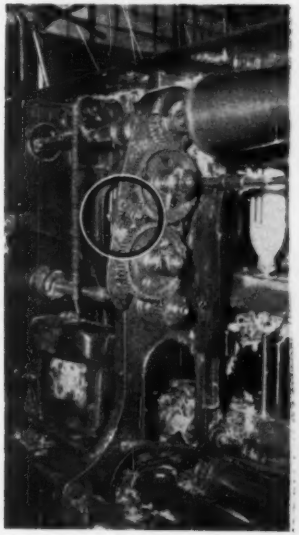
4 **Provide magazine type creels that will accommodate spinning bobbins**

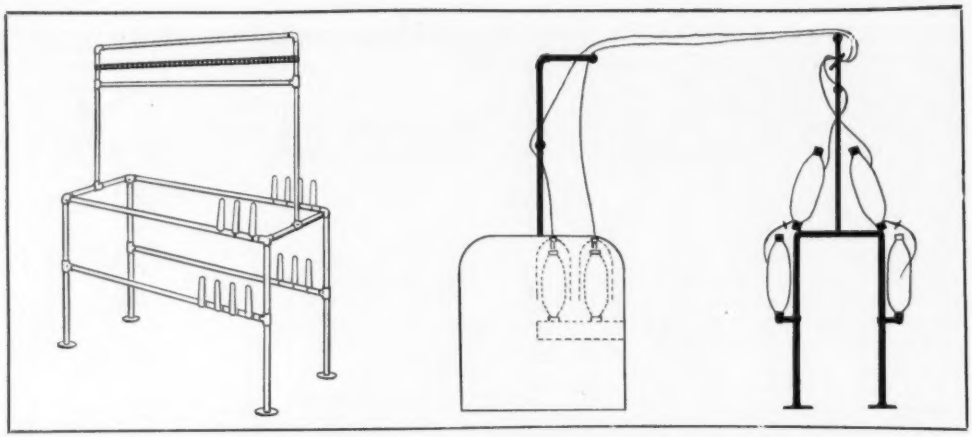


SLUBBER IS STRIPPED down to the roller beam, as shown here, when it is modified to do twisting. Provided by this photo also is a rear view of the piping arrangement for guiding the yarns down to flyers. For front view of stand, see opposite page.



INTERMEDIATE GEAR added to train of gears between twist change gear and top cone gear may be seen in this close-up view.





MAGAZINE CREEL CONSTRUCTION DETAILS are given in these two sketches. Note tension control device at top of frame in sketch at left. It is made from ordinary perforated extension bar type pipe hangers about ¾" wide. How the tail of one bobbin is tied to the end of another bobbin may be seen in sketch at right.

for the yarns. By changing the angle of this strapping the tension on the yarns can be increased or decreased by the frame tender as required.

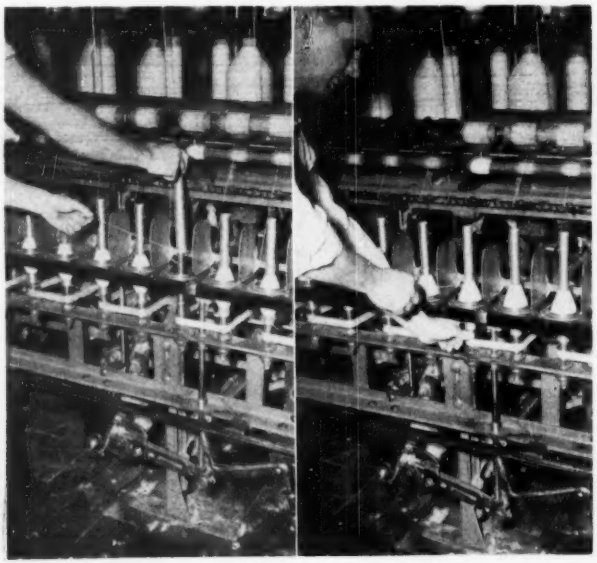
Incidentally, this type of creel has also been provided for the conventional twisters in this mill, making it possible to bring yarn directly from the spinning frames for the twisting operation, eliminating the necessity for transferring the yarn to another type of carrier by spooling or winding.

Tails on Spinning Bobbins. It should be explained here that a tailing is left on all bobbins of yarn spun at Veteran Mills so that it can be tied to the end of another bobbin of yarn in the magazine creel at the twister.

To produce this tailing on each bobbin of yarn, the spinning frame doffers piece-up under the bobbin. In other words, they lift the empty bobbin from the sheath of the spindle as shown in the accompanying photo, wrap the end around the sheath as indicated, and then push the bobbin back down onto the spindle.

To insure that this tailing is not broken while the bobbin is being filled, spinners are not permitted to lift the bobbin from the spindle when putting up ends.

TAILS ON SPINNING PACKAGES are made by piecing-up under the bobbin as demonstrated by the spinner in the photo at the left. To insure that tailing is not broken while bobbin is being filled, spinners are not permitted to lift the bobbin from the spindle when putting up ends (right photo).



Slubber-Twister Flexible. By far the majority of Veteran Mills' yarn is utilized in the manufacture of tufted textiles such as bedspreads, robes, bath mats, etc., which have tufts inserted and cut by machine in a previously woven fabric like muslin, sheeting, lightweight duck, etc. Consequently, quite a variety of plied yarns is required, and oftentimes the poundage is small. It is here that the slubber-twisters are particularly adaptable.

A popular yarn utilized in the manufacture of tufted textiles is 8s/4. When processing an order for this particular yarn on the slubber-twister, a twist of 1½ to 2 turns per inch is usually inserted,

Score Card for Sound Recreation Facilities

One feature of General Electric's "More Power to America" program on Community Recreation, prepared in cooperation with the National Recreation Association, provides for a community score card. This feature is a means by which a private citizen may score the progressiveness of his community's recreation.

The score card provides for a "Yes" or a "No" answer to the question "Does your community provide the following:"

1. A recreation department that plans and operates a year-round community program?
2. A trained recreation staff under a full-time recreation director?
3. A playground of not less than three acres, nor more than one-half mile from every home?
4. Adequate facilities for pre-school and school-age children on this playground under year-round leadership?
5. A playfield of not less than 10 acres, nor more than one mile away from every home?
6. This playfield with facilities for varied activities for young people and adults—baseball, tennis, swimming, shuffleboard, and horseshoe pitching?
7. A total community play space, not counting school years, equal to one acre for every 100 people?
8. A community recreation building or a school building with recreation facilities available and open for use by young people and adults?
9. A readily accessible and well-operated public outdoor swimming pool or bathing beach?
10. Public facilities for skating, skiing, and tobogganing if climate permits?
11. A tennis court for every 2000 people?
12. A softball diamond for every 3000 people?
13. Adequately floodlighted outdoor recreation areas which extend the hours of play after sundown?
14. A means of expressing interest in the recreation program through a neighborhood playground committee, school council, parents' group, or community-wide recreation planning agency?

The community score card, which lists the foregoing questions, is one instrument in the tool chest of aids provided by General Electric for communities and industries to use in developing outdoor recreation.

AN INDEX of articles appearing in "Textile Industries" during 1951 has been published as a supplement to this, the December issue. Did you find your copy? May we suggest that you file it for future use in locating needed data.

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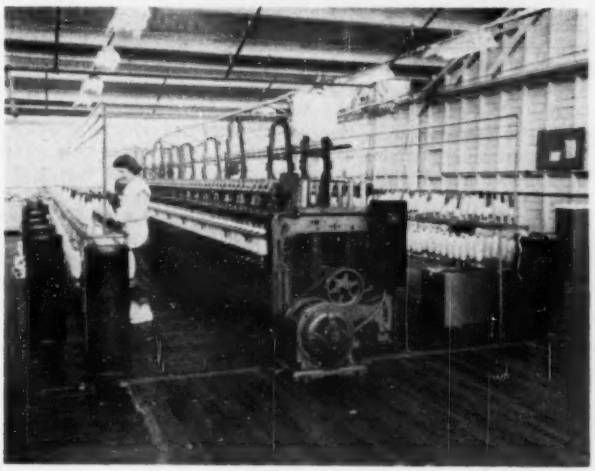
depending of course upon the customer specification. The three-pound packages of 8s/4 yarn wound on regular slubber bobbins are then taken to the precision winders to be built into packages to meet customer requirements.

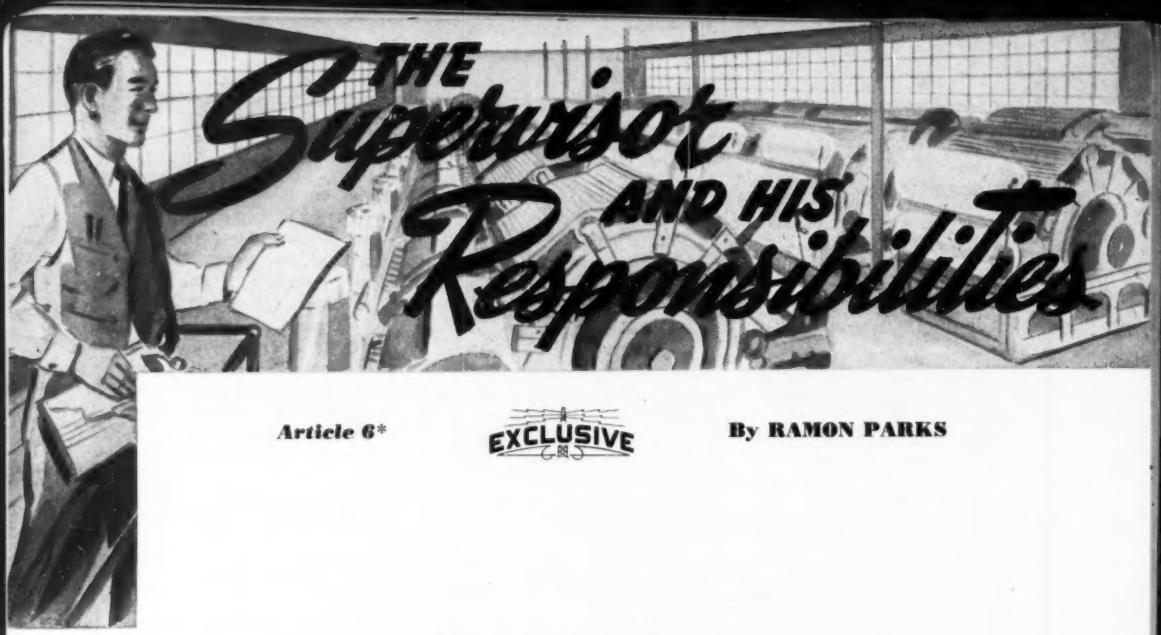
The fact that there is no knot in a full package of the plied yarn is especially advantageous and serves as a selling point for the mill because passage of the yarn through the tufting machines is facilitated.

Five-pound packages of 8s/9 have been made on these slubbers converted to twisters.

In one instance where the mill was processing a particularly large order for 7s/3 yarn with a specified twist of 6 tpi, these frames were brought into service again to relieve the load on the conventional twisters. In order to meet the twist specification it was necessary to run the yarn through two slubbers, inserting 3 tpi at each machine. Of course this could have been done with one run on the conventional twisters but it enabled the mill to meet the delivery schedule, again proving the usefulness of the machines.

CONVENTIONAL TWISTERS at Veteran Mills have also been equipped with the improvised magazine type creels as shown here.





*Article 6**

EXCLUSIVE

By RAMON PARKS

Cost Control

THE DEPARTMENT head who has the reputation of being a *good supervisor* is doubtless a man who gets along well with the employees in his department, with his assistants, with his fellow overseers, and with management. He very probably has a good waste record, can get maximum production while maintaining quality, with an excellent departmental safety record, to boot. But the factor which probably attracts management more than any of these is his ability to keep his departmental costs down.

It is, of course, difficult to separate one of these factors from another, especially to assign a relative position in the scale of importance. An overseer's relations with all those with whom he works have an effect on cost. For example, a foreman who gets along well with his employees will have a lower labor turnover, and, therefore, fewer learners to train than one who is always bickering with his people. The importance of controlling the waste in the department, and its effect upon cost is obvious. Getting *quality* production, with a low accident record, certainly affects the overall departmental cost figures.

Overall Cost Figures. Most mills which give cost figures to their supervisors usually pass along the labor costs, but they sometimes neglect giving the supervisor some of the other costs which are in many respects just as important. On a purely labor cost basis one overseer may make an outstanding record, but he may do this at the expense of extra waste, the use of more supplies, or sub-standard production. For this reason we strongly advise the use of overall cost figures. This, we think, would tend to keep the overseer's direction of effort in better balance.

There is some difference of opinion as to the correct basis for cost figures. Some mills base their waste percentages on cotton opened and their cost figures on finished production. Others use the material received by the department for the waste figures and the production turned out by the department as the basis for cost calculations. We are inclined to favor the latter method provided there is any satisfactory means of determining the inter-departmental production figures, and we believe that this is done in most mills.

Inasmuch as labor costs form a large part of the overall cost figure, it is necessary that the overseer put much emphasis on this factor. Even if the overseer has sufficient clerical help to make up his payroll completely, he should personally check over the payroll, not so much to look for minor errors as to keep himself posted with respect to the various jobs in his department, the number of operatives on each job, rates of pay, overtime, reporting pay, allowances, etc.

Use of Extra Employees. One item which will al-

*The first five articles of this series appeared in the June, July, August, September, and October issues, respectively. Article 1 had as its sub-title "Hiring and Training"; Article 2, "Employee Relations"; Article 3, "Cooperation"; Article 4, "Planning Your Work; Delegating Responsibility"; Article 5, "Machinery Maintenance."

Reprints of individual articles will not be available. However, if the demand for the entire series is large enough, it will be placed in booklet form. Write the editors if you are interested.

ways bear scrutiny is that of spare help. It is often quite easy to get spare employees on the payroll in case of an emergency, then to forget about them. Soon the secondhand will be looking for odd jobs to keep them busy; often this means giving them unpleasant tasks which should be performed by regular employees. Naturally there is a squawk from the regular operatives when it is attempted to give these unpleasant jobs back to them. Spare employees are sometimes necessary, but if it becomes necessary to put them with regular operatives, or to give them part of a regular employee's job, then the overseer should make a careful check into the situation and should make an effort to bring the job back into line.

The same thing can be said about allowances. We realize with our present labor laws and many of our labor contracts that at times allowances must be paid to keep the pay of the employee up to the required minimum. These allowances should always be questioned, however, and carefully investigated in an effort to improve the situation which made the allowances necessary.

Reporting Pay; Piece Rates. Under many labor contracts reporting pay is given to operatives who report for work but who are not needed. We think this is as it should be; however, an excessive amount of reporting pay will add materially to the departmental costs, so it is up to him to be sure that no reporting pay is put on the pay roll because of his failure to notify an operative not to come in, when the supervisor knew in advance that he would not be needed.

Although many employees used to oppose piece rates, it has been our observation during recent years that the trend is the other way around. Operatives have come to realize the value of being paid in proportion to the amount of work done, and in many cases they have been known to request piece rates even before they were proposed by the overseer. Some jobs, such as repairs and maintenance, do not lend themselves very well to direct piece rates. However, it is sometimes possible to pay such service jobs a bonus based on the earnings of the group which they *serve*, thus making them interested in the employees in their group getting the highest possible production.

Piece rates should set a premium on the fullest possible package and thus the maximum running time of the machines. For example, to pay spinners and doffers by the hank, rather than by the side doff, would encourage them to keep the spinning frames running as long as possible between doffs; whereas to pay them by the side doff would make them want to get as many doffs as possible, some of which would undoubtedly be short.

In some cases group piece rates can be made to work, especially if the groups are relatively small and the individuals are fairly equal in skill. We have seen this work in the beaming room (with beamers and creelers) and with certain operatives in the cloth room. Individual piece rates are greatly to be preferred, however.

A lot of things enter into the cost picture besides rates and methods of pay, too many spares, and other irregularities. A few of these things will be discussed:

Condition of the Machinery. Though machinery maintenance is discussed more at length in another article of this series, we think it appropriate to touch on it briefly here. Quality and quantity production is not secured from worn, ill-kept, and run-down machines. Adequate lubrication is a "must" in any maintenance program and should have the overseer's attention—personal attention—if necessary to get the job done. Regular, systematic overhauling, cleaning, setting, etc., are necessary to keep the machines in top operating condition.

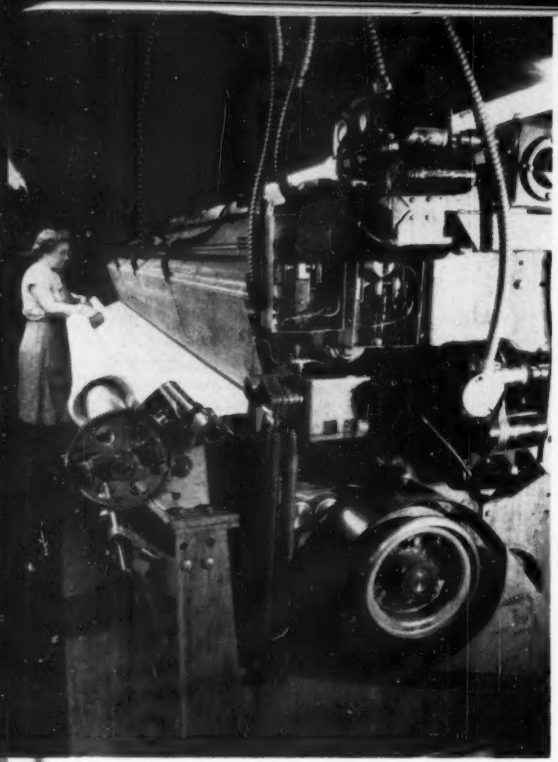
Containers and Materials Handling Equipment. We do not like the word "containers," but we are using it to include anything on which or in which the stock in process is delivered at each machine (e. g., sliver cans, roving bobbins, spinning bobbins, spools, twister bobbins, beams, etc.). Materials handling equipment would include boxes and trucks of all types, overhead conveyors, etc.

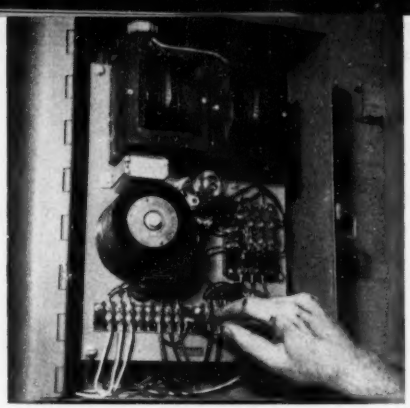
To keep production moving and to keep the machines in operation it is necessary to have an adequate supply of the various kinds of containers needed by the department. This means not only a sufficient number of the containers but that they be used properly—meaning that they be filled to capacity with stock that is needed in the subsequent processes so that the containers can be emptied and returned for re-use.

Materials handling equipment must be adequate for the job to be done and must be kept in a good state of repair. The overseer should look for duplicate handling and should avoid having to empty boxes or containers into bins and taking the stock out again; this doubles the handling cost.

Proper Scheduling of Production. Many mills have a separate production department, headed by a production manager whose duty is to cooperate with the various overseers in getting the stock through the mill in such a way that deliveries can be met with a minimum of delay and with the lowest possible cost consistent with the delivery requirements. For example, at the beamers and the slashers full sets and full warps can be made at almost the same cost as partial sets or warps (and the waste in each case will be almost the same). In the weave room, drawing-in, or tying-in the changing costs will be the same on either a full warp or a piece warp.

Quality. The overseer and the secondhands will be on the alert at all times not only to get all of the production possible through their department, but to see that the material leaving the department is of such quality that it can be properly processed by the next department. Stock having to be reprocessed or given special handling because of poor quality does not help the cost figure.





BEAM LET-OFF CONTROL UNIT (two units required per machine) features simple design and construction for easy maintenance.

TWO TENSION SWITCHES convert changes in warp tension to electrical impulses which actuate the let-off motor on the electronic beam drive, shown mounted on tricot knitter.

Supplies warp yarns to the knitting elements at a constant linear speed.

Electronic Beam Let-Off

improves tricot knitting operation

A BEAM let-off drive, now in service, is credited with an improvement in quality of tricot-knitted nylon fabrics. Improved quality, in this instance, is the result of consistently maintained proper runner lengths and constant linear speed of the warp supplied to the knitting elements. Fabric shading has been virtually eliminated in one well-known tricot mill in which 120 Westinghouse Type BD electronic beam let-off drives are in operation.

The drives electronically control warp let-off so that the zero or mean position of the tension bar remains fixed. An increase in

EXCLUSIVE

warp tension produces a change in position of the knitting machine tension bar, and the change in position is converted to an electrical impulse which is amplified to operate a small a-c motor geared to the beam. Operation of the motor releases the beam, maintaining proper tension.

A high gear ratio is provided between the motor and the beam so that, when the beam is nearly empty, and the knitting machine is operating at normal speed, the beam motor runs at approximately 1400 rpm, depending upon the runner lengths desired. A worm gear drive is used so that tension on the warp cannot exert a driving force on the motor. The motor acts to release tension by driving the worm gear at a suitable speed to let off the warp (due to the tension exerted on it by the threads) just enough to maintain proper warp tension (i.e., constant average deflection of the tension bar springs). The drive operates as a function of tension rather than speed, and changes in beam

(*Continued on page* 199)

resin sacs in boll and leaf burst when heated

Another Source of "Tar Spots"

From the Institute of Textile Technology

CURRENT interest in "tar spots" on bleached cotton fabric has prompted various organizations to increase their efforts toward finding a solution to the problem. Articles have recently been written discussing the situation but no solution has been offered. This discussion is not a proposed solution but a contribution to the knowledge of the problem.

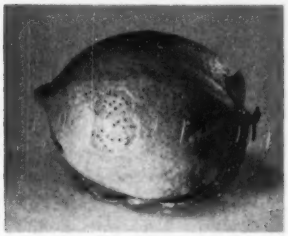
While searching for tarry matter in trash from various processes of cotton mills currently having trouble with "tar spots" on their finished material, some of the trash was sprinkled onto a white cloth that had been placed on the face of an inverted electric iron (375 F) to melt any asphaltic particles that might be present and thus stain the cloth. It was noted that, in most instances, small black stains appeared on the cloth when no asphaltic material could be found by the solvent transfer technique developed in this laboratory (Ref. 1 and 2).

Microscopic observation (30X) of the cloth revealed that small egg-shaped particles, about 0.5 mm or 1/50 inch in size, of the same general color as the trash, adhered to the cloth at the stains, and when they were pushed to one side were seen to be only empty shells, their contents having exuded to form the stains. The stains, under the microscope, were very dark brown rather than black as they had appeared to the naked eye.

Attempts were made to remove the stains by treatment with 1% sulfuric acid for 5 minutes at 120 F; boiling in 2% caustic for two hours; and bleaching in a solution containing 0.2% available chlorine for 15 minutes at 120 F. The stain, in a few instances, was partially removed but usually m

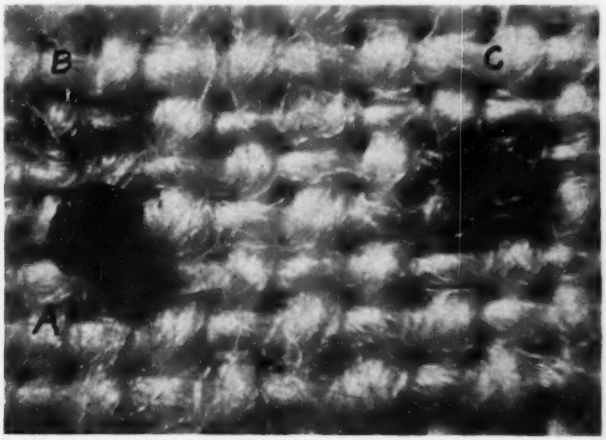
(*Continued on page 203*)

GREEN COTTON BOLL with a section of the epidermal layer cut away to show location of resin sacs.



EMPTY SHELLS of four resin sacs after exudation of their "resin-tar" as a result of heating. These potential "tar-spot" producing sacs were obtained from vertical opener trash.

STAINS WERE INTRODUCED into 80 x 80 finished print cloth by heating a resin sac and by melting a bit of asphalt from a cotton picker's bag. The cloth was then desized, given a caustic boil-off, and bleached. The resin sac was removed from the cloth before chemical treatment and replaced later for purposes of comparison. Key to symbols: A, resin sac; B, "resin-tar" stain; C, asphalt stain.



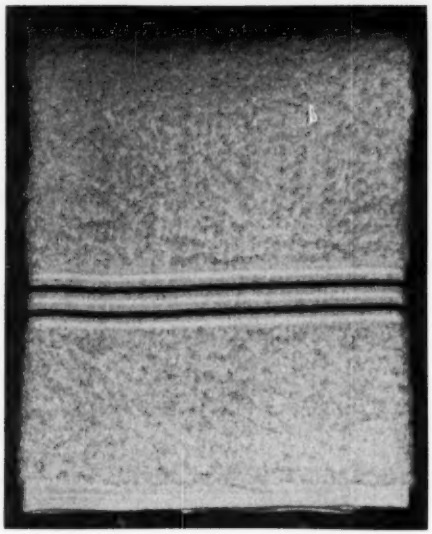
Practical
Terry Weaving
and Designing

Article 3*

EXCLUSIVE

By T. HARGREAVES

Superintendent, Caldwell Linen Mills (Canada)



TOWEL with five cords of sateen weave for border. See Chain Draft A in Fig. 11.

Fancy Borders for Terry Towels

TO INCREASE their sales appeal, Terry Towels usually have a fancy cross border at each end. These fancy borders as a rule occupy about five inches of cloth length at each end of the towel. However, the cross border effect may be only from ¼ in. to 1½ in. wide, in which case it is placed about four or five inches from the ends of the towel.

Generally speaking, a terry towel that is all white, or all one color —and whose loops are evenly distributed on both sides of the towel —requires either: (1) a contrasting weave effect of the same color as the towel, or (2) the introduction of contrasting color effects in the filling yarns. The weave contrast is also often used even though different color filling is used for the border.

Towels woven with multicolored stripes, on the other hand, do not require cross borders because there is usually enough eye appeal in the colored terry stripes.

A simple, yet effective, cross border weave is one that produces a sateen cord across the towel. These cords are usually quite thick and are superimposed so that the effect is equal on both the face and back of the towel. Five or more of these cords in sequence with about six picks of plain tab between make an effective border.

The appeal is enhanced by the use of different colors in the various cords. For example, a towel with all green colored loops was made with the five cords colored as follows: First cord Rose Pink, second cord Black, third cord Rose Pink, fourth cord Black, fifth cord Rose Pink. All these cords were separated by six picks of the green and plain tab weave.

In Figure 11 are shown various lifting plans which might be used to produce cross border effects. Practically all of these fancy cross borders require special selvages to prevent end breakage due to the extra picks crammed in the cross borders. Four harnesses are usually needed for the selvage. Two of the selvage harnesses act as catch cords since there are two picks per shed.

Designs "B," "C," "D," and "E" could be arranged to be woven four picks per shed. The other two selvage harnesses are lifted to allow four, eight, or twelve picks to each shed of the selvage weave. It is not uncommon to have as many as 120 picks per inch in fancy cross borders as compared to about 40 picks per inch in the body portion.

It should be noted that all the lifting plans given in Fig. 11 are multiples of six picks. This is an important point to watch, otherwise off-pick trouble will occur on returning to the terry portion due to the dobby not being in time with the terry motion. The lifting plan may be shortened or lengthened to weave the width border desired so long as the picks are multiples of six.

All of the fancy cross border weaves shown in this Fig. 11 assume that the terry weave is ordinary plain terry using the regular three-pick terry weave cycle for which only two harnesses are needed for the pile warp, except for design "F" which uses four pile harnesses.

The sateen cord effect described previously is shown at "A." Using

*Articles 1 and 2 appeared in the September and October issues respectively.

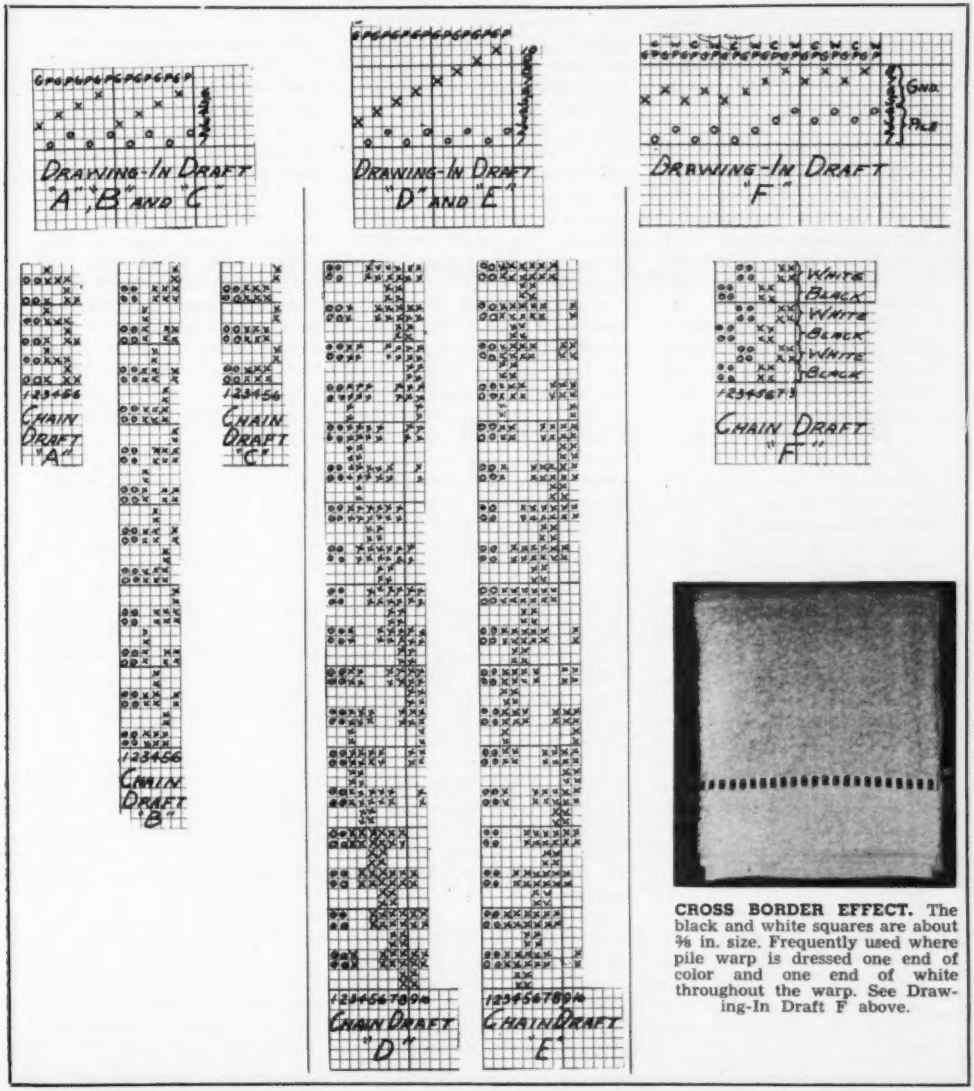
the same drawing-in, a double-faced diagonal twill effect is shown at "B" by changing the chain draft. Still using the same drawing-in, a vertical rib effect border is achieved by using the chain draft shown at "C." By combining the effects of "B" and "C," a zig-zag effect is accomplished which gives a very pleasing effect (for example 36 picks "C," 72 picks "B," 36 picks "C").

A far more bold type of double-faced diagonal twill effect is produced with a draw and chain as shown at "D." This weave is found quite frequently on the better quality towels, requiring two harnesses for the pile and eight for the ground.

Using the same drawing-in but varying the chain draft will produce the reverse diagonal twill effect shown at "E." By combining "D" and "E," a herringbone effect can be achieved (for example: 72 picks "D," 72 picks "E," 72 picks "D"). Spun rayon filling gives a very pleasing effect in this weave but has a tendency to break at the selvages because of the increased shrinkage which spun rayon has in the bleaching operation as compared to the cotton body of the towel.

The cross border suggestion

FIG. 11. Several lifting plans suitable for producing fancy cross border effects.



CROSS BORDER EFFECT. The black and white squares are about ⅜ in. size. Frequently used where pile warp is dressed one end of color and one end of white throughout the warp. See Drawing-In Draft F above.

shown at "F" is a very pleasing one. It produces alternating black and white squares about ⅜ in. in size. It is used frequently where the pile warp is dressed one end of color and one end of white throughout the warp. The colored pile is woven on top and the white pile is underneath in the body of the towel. About 3½ in. at each end of the towel has the white pile brought to the top and the colored pile woven underneath. The ⅜ in. line of black and white squares is between the change from colored terry to white terry and is very effective and pleasing.

The reader will, of course, realize that here we have attempted to show only a few of the possible types of cross border effects which may be very easily achieved on a terry towel. Other weaves or combinations of weaves are often used to good advantage.

(Article 4 in this series will be concerned with the building of the indicator chain.)

Preventive Maintenance Program for Electric Industrial Trucks

A preventive maintenance program for lowering operating costs of electric industrial trucks includes the following recommendations:

1. *Loads should suit the truck.* Teach operators that truck capacity varies with load length, and that continual overloading causes serious breakdowns and plays havoc with tire bills. Use trucks with ample reserve capacity.

2. *Keep floors clean and in good condition.* Bad surfaces cause damaging strains and shocks, and again tires suffer unnecessarily.

3. *Replace tires when they develop flat spots or when big chunks of rubber are gouged out.* Stretching tire use damages the truck, costs more in repairs, and is bad for driver health and efficiency.

4. *Let the mechanic do repair work.* When something goes wrong, have operator call the mechanic, and don't let him have the truck pushed or towed without the mechanic's orders.

5. *Operators should be trained thoroughly in proper use of equipment assigned to them.* Whenever possible each man should work permanently with the same truck.

6. *When a new truck is purchased, be sure to obtain full information about it.* Have the manufacturer's service representative demonstrate it for operators. He should advise maintenance force, explain spare parts needs, and make sure no damage was incurred in shipment.

7. *Mechanical maintenance program should follow a regular schedule.* Use a series of mechanical worksheets or tags prescribing services to be performed. Keep a fleet maintenance record to learn the life expectancy of important units of the truck. This enables the making of necessary changes in advance to avoid complete breakdown, preventing loss of operating time.

8. *Trucks need a monthly lubrication and mechanical check,* usually requiring about an hour and a half, which should follow removal of dirt and grit from the undercarriage. Fleet operation calls for a cleaning rack in a small room or enclosed area. A weak alkaline solution applied under steam pressure does a good cleaning job, and compressed air is best for drying. After the mechanical check, lubricate the truck. Make a large blow-up of the manufacturer's lubrication chart so maintenance men can follow it easily. During the check, put the truck through its paces thoroughly in all speeds, and with a normal load.

9. *Semi-annual mechanical checks and lubrication are more extensive.* Included are cleaning and repacking wheel bearings, changing drive axle grease or oil, and any other services not assigned to the short-term check-ups.

10. *Electrical checks should be conducted on a weekly, monthly, and semi-annual basis.* The weekly check includes tightening loose fittings and replacing worn or damaged ones. Monthly, all electrical operations should be observed closely, and semi-annually, the complete electrical inspection will save money. Tightness of electrical connections and proper insulation of wires should be noted carefully.

11. *Be careful with batteries.* Overwatering will weaken the electrolyte, and when it spills over from the battery case, the electrolyte causes corrosion of other truck parts. Flushing the battery is a necessity, as the battery must be kept clean. Make this part of the weekly inspection. Use properly maintained automatic charging equipment.

12. *General overhauls should be scheduled according to operating conditions,* such as the number of hours the truck works daily, plant conditions, and the driver's ability.

13. *Keep a weekly log for each truck,* on which inspections, lubrications, and cleanings are recorded. This permanent record will help in seeing that necessary preventive maintenance functions are performed.

This program, suggested by Automatic Transportation Co., manufacturer of electric industrial trucks, is based on one shift a day and favorable operating conditions. Under rough conditions, such as bad floors, more than average dirt, or more than one shift a day duty, trucks require more frequent use of some or all of these checks. It is wise to consult with the manufacturer's service representative in regard to this.

NATIONAL OFFICERS OF AATCC. Seated (left to right): **George O. Linberg,** vice-president; **C. Norris Rabold,** president; **J. Robert Bonnar,** vice-president. Standing: **Leonard S. Little,** head of research committee; **Dr. Harold C. Chapin,** secretary; **Albert E. Sampson,** assistant treasurer; **William R. Moorhouse,** treasurer; and **Dr. Harold W. Stiegler,** director of research.

AATCC Convention Largest Ever

Staff Report

THE LARGEST attendance in its thirty-year history was recorded at the annual convention of the American Association of Textile Chemists and Colorists at Hotel Statler in New York City October 17-19. Nearly 2000 members registered for practicipation in the three-day program which was so well planned and executed by the convention host, the New York Section.

Not only was this the Association's largest convention from the standpoint of attendance—the wet processing exposition held in conjuction with the meeting was the largest in the history of the organization. Ninety displays featured dyestuffs, processing oils and chemicals, finishes and auxiliaries, together with wet process and testing apparatus. In addition, new textile fibers and colorful fabrics were attractively displayed by several of the fiber manufacturers. As could be expected, net profit accruing to the Association from this exposition was greater than on any previous occasion.

At the National Council meeting on the opening day, 161 new members were voted admission to the Association, bringing the membership total close to 7000. Corporate membership has increased to approximately 400. As a result, it has been possible to expand research since all of the money received from corporate members is utilized for this important phase of the Association's activities.

A special feature of the convention was the Mixed Fibers Symposium Luncheon on Thursday, at which J. Spencer Love of Burlington Mills was guest speaker. Attended by over 1200, it was said to be the largest industrial luncheon ever to be held in New York City.

Raymond W. Jacoby of Ciba Co., Inc., was presented the Association's highest award, the Olney Medal, at the annual banquet on Friday evening, for outstanding achievement in the field of textile chemistry.

Another "first" for this convention was the presentation of an award for the outstanding technical paper published. Papers are judged on originality, scientific value, practical value, and format. Winners of the $200 award for the period July 1, 1950 to July 1, 1951 were Mason Hayek and F. C. Chromey of E. I. du Pont de Nemours & Co., Inc., for their paper "The Measurement of Static Electricity on Fabrics" (see page 137, TEXTILE INDUSTRIES for December, 1950).

New York Section won the intersectional contest with the presentation of a paper on the measurement of fabric soiling. In second place was Rhode Island Section with its paper on the continuous dyeing of new synthetic fibers. Philadelphia Section placed third with a paper on improving crease recovery of cotton fabrics.

This year for the first time a student intersectional contest was conducted, in which senior students at the various textile schools competed for preparation of the best research paper. Winners in this contest were: Robert J. Lynch of

the State University of New York, Institute of Applied Arts and Sciences, Utica, N. Y., for his paper entitled "Relative Effects of Temperature and Humidity on Moisture Content of Cotton and Wool Fibers, Yarns, and Fabrics"; and C. Franklin Donyes of North Carolina State College for his paper "Textile Applications of Infra-Red Photography." Both of these men were presented with wrist watches.

Honorary membership was conferred, in absentia, on Hugh Christison, chemist of Arlington Mills Div., William Whitman Co., Inc., Lawrence, Mass. Mr. Christison had served as vice-president of the Association during the period 1944-46.

OLNEY AWARD WINNER, Raymond W. Jacoby of Ciba Co., Inc., for outstanding achievement in the field of textile chemistry.

Lady guests will long remember this convention as a most enjoyable occasion. Beginning with a cocktail reception on Wednesday, special recreational events for them included a cruise around Manhattan Island, breakfast at B. Altman's, and a fashion show.

November 6-8 is the date announced for the convention next year. Place: Hotel Statler, Boston, Mass.

Abstracts and extracts of the majority of the papers presented at the convention appear in this special section.

Mixed Fibers Symposium—a special convention feature

An unusual portion of the 30th national convention of AATCC was the Mixed Fibers Symposium and luncheon, at which J. Spencer Love of Burlington Mills spoke. A panel of qualified men answered questions submitted by the audience. Substance of the questions put and answered follows:

Static Problems on Synthetics. The manufacturers of synthetic fibers treat the fibers with an anti-static compound before they are shipped to the mills; if in processing the compound is removed, it must be replaced by the mill.

Relative humidity of 50-60% (in general) tends to alleviate static conditions, but where blends are used, the proper relative humidity for all fibers cannot be maintained; when relative humidity alone will not relieve mill of static in processing, the plant must employ anti-static agents, of which there are a number on the market.

Some types of rayon have 10% water added, and on them the static problem is not as noticeable. It is also possible to maintain a relative humidity that is too high because some finishes on synthetics tend to become sticky under these conditions.

Solid Dyeing of Orlon-Wool Blends. No method is known whereby Orlon-wool blends may be dyed satisfactorily in solid shades, but much depends on the percentage of the blend. Difficulty lies in the difference in absorption rate of the two fibers.

When dyeing by the package method, good winding is essential. On Dacron winding the package must be carefully prepared, with especial attention paid to the top of the package so that it is wound loosely to prevent the fiber from stretching.

Responsibility to Consumer. Opinion differed as to which branch of the industry is actually responsible to the consumer for fabric specification (construction, dye, hand, etc.). Answers: (1) It is a matter of team work for mill, converter, dyer-finisher, and retailer; (2) the mill must bear the full responsibility; (3) [someone] must pinpoint the responsibility to the converter; (4) must have centralized responsibility; (5) [all branches] must study the problem.

New Synthetics Processed on Conventional System. Can be processed fairly well, but each may require different settings and modification of equipment; there is need for a universal system which will handle all fibers; research must be done in opening, picking, carding, etc.

Nylon-Wool Stabilized to Tailoring. At present it is handled the same as wool or worsted; the process is not completely satisfactory yet and work is being done in this field; indications are that nylon-wool blends may take a chemical treatment for stabilizing.

Factors involved in stabilizing are weight of fabric, amount of nylon in the blend, and the limit of heat that wool will take; maximum temperature suggested is 300-310 F.

Converter Determining Satisfactory Service of Fabric for Consumer End Use. A fabric may serve so many different end uses that it is impossible for the converter to follow through on end use service, and besides the converter often

does not know what the end use will be; however, it is recognized that this follow through, if it could be done, would be profitable to the converter because he could continue selling the customer, would have fewer complaints and claims, and he would derive much goodwill.

Sewing Threads from Mixed Fibers. At present no sewing threads are being made of mixed fibers; manufacturers are concentrating on serviceability of seams sewed with single-fiber threads.

Heat-Setting Dacron for Dimensional Control. Conventional procedures are now being used, but the subject is being further investigated; staple Dacron is processed through heat and some setting is already present. Caution: do not heat-set at too high a temperature or fabric will continue to shrink and produce a harder hand.

Dye Fading: Artificial versus Natural Light. There is noticeable difference in rate of fading by exposure to natural sunlight and in Fadeometer, especially on some types of dyes and some colors; AATCC is now compiling a list of dyes which may cause this phenomenon. Possibility that dyes alone are not responsible, but in basic make-up of newer fibers.

Seam Puckering in Mixed Fiber Fabrics. Each case must be studied to determine what occurrence has been. Puckers may generally be caused by (1) drawing, as in duffle bag; (2) differential feeding of fabric; (3) swelling or dimensional changes of fabric (e.g. due to humidity, etc.); (4) planer displacement.

When fabrics compress differently by puckering can only be remedied by fabric construction or finishing. Much puckering can be prevented or reduced by maintaining the proper tension on the sewing machine; have the same tension on both the top and bottom.

Improving Wash Fastness on Acetate Fabrics. A review of literature indicates that improvement has been made. It is not necessary to raise the heat so high to get the dirt out of a fabric, the inference here being that the consumer often treats the fabric too rough while laundering.

Grades of Vicara. Only two types are being made, bright and dull. Interpreting the question, it was said that some of the early lots of Vicara may have been different, but that from now on the dyeability of all lots should remain the same.

Abrasion Tests Correlated with Consumer Usage. There is no laboratory abrasion test which will offer close correlation with consumer usage, but the abrasion tests will give useful results and information on certain fabrics; this is a complicated problem. Although the answer to the direct question was in the negative, the industry was cautioned not to disregard the use of the abrasion tester for research and experimental work.

The Stoll abrasion tester shows great promise when used in evaluating certain fabrics for specified end uses; the Quartermaster Corps has found it useful.

Caution: Any abrasion testing machine in the hands of inexperienced personnel can be devastating; much experience, records, correlation, and understanding of influencing factors are necessary for its use.

Is Dyer Asked to do Impossible? Dyers sometimes are asked to do the impossible. Some things suggested to the dyer may not be exactly impossible, but they do encompass the "economic." The technically impossible often takes into consideration the elements of time and cost.

Effect of Synthetic-Wool Blends on Reworked Wool Processing. Some synthetics will offer problems to shoddy mills; they will not carbonize.

THE WINNING PAPER

Measurement of Fabric Soiling

Presented by
NEW YORK SECTION
in the Intersectional Contest

A BLOWER TEST, which causes impingement of soil from an airstream by interception and inertial effect, has shown sensitivity to fabric construction. Test results indicate an application for flat fabrics having appreciable air permeability, and exclude the possibility of evaluating soiling tendencies of fiber types by the blower method.

Blower test results are affected by treatments and finishes applied to flat fabrics. Increased soil retention due to "oil" bonding agrees with past experience. Impingement of airborne soil particles increases with air velocity, while tighter fabrics resist passage of air and produce less soiling. Accordingly, the blower test may be useful as a tool to design flat fabrics with improved soiling resistance under certain service conditions.

Soiling tendencies of fiber types may be evaluated by a tumbler test, which is less sensitive to differences in fabric construction. This test is also sensitive to the effects of treatments and finishes. Retention tests on untreated flat fabrics show a lack of selective absorption, indicating the suitability of simple soils in contrast to complex mixtures which have been

made to simulate "natural" soils for purposes of soil testing.

A floor test, which produces impingement principally by deposition and transfer, shows differences among specimens of similar constructions made with various types of pile fibers. Test results are readily related to service conditions.

A comparison of results among the three test methods does not produce a clear-cut conclusion on the effects of many finishes. The results of any one test method may not give a satisfactory picture of the results that the same fabric would give under service conditions. The mechanisms of soiling are not yet sufficiently well established in all detail to permit a single test method. The tumbler test has the greatest potential reproducibility among the three described.

E. A. LEONARD of Alexander Smith, Inc., Yonkers, N. Y., read New York Section's prize-winning paper.

The application of soils with graded particle sizes to the tumbler test would yield further information on soiling by different mechanisms and retention of different particle sizes. The blower test can be improved by artificially generating airborne particles, thus providing a standard atmosphere.

Resinous-Copper Complexes in Printing

By ALBERT P. ROYLE
Sandoz Chemical Works, Inc.

PRINTING (both the discharge printing of the aftertreated ground shade and the direct printing of colors which are to be later treated) with a recently developed range of selected direct dyestuffs, which when aftertreated with a resinous-copper complex produce shades with good washing and light fastness properties, has presented a considerable problem—that of poor discharges and stained whites.

The chemical nature of the dyes has not lent itself to discharge work, and the combining of the copper in the dye complex and the sulfur of the reducing agent invariably produces a grayish or creamy white. In the after-treatment of application prints, the resinous-copper complex itself will stain the unprinted portions of the goods, materially detracting from the crisp, pleasant look customarily associated with this type of work.

Since this stain is not removable by any practical procedure a program was instituted to develop a method for preventing the formation of such a permanent strain.

A sequestrant or chelating agent, in this case a sodium salt of a synthetically prepared polyamino acid, added to the discharge paste, proved to be most beneficial, and with the help of known discharging assistants and solvents a white was produced. This white is by no means a fact upon leaving the ager, for at this point the printed areas of the goods are a deep, dirty gray and the washing procedure must be modified to remove this discoloration. To achieve this end, it has been found that the addition of small amounts of acetic acid and hydrogen peroxide to the detergent in the washer will clear the stain without perceptibly affecting the undischarged ground shade.

The other aspect of the problem of using resinous-copper complexes in printing is that of producing aftertreated application prints without leaving a stain on the white, unprinted portion of the goods. This discoloration is characteristic of the complex itself and is very resistant to soaping; however, this condition may be corrected by only a slight change in the washing procedure.

Printing is done in the usual manner, using suitable dyestuffs selected for their solubility and compatibility. Steaming may be done in the cottage or in a slow ager, and the aftertreatment is carried out on the usual equipment, either a slop washer or an open width soaper. Care must be taken to insure that the initial rinsing in plain cold water is very thorough as any dyestuff or paste clinging to the whites will be fixed by the subsequent treatment. A mild soaping before this treatment may be necessary in the case of heavy shades or insufficient rinse water. The bath containing the resinous-copper complex follows the rinsing and the strength and temperature of this bath will be determined by those individual mill conditions which fix the time of immersion. A rinse should follow this treatment.

The unpleasant stain on the white and unprinted portion of the goods at this point in the process can be cleared by a modification of the customary soaping bath. To this bath, containing a mild detergent, small amounts of acetic acid and hydrogen peroxide are added, the strength and temperature depending on the time of immersion of the goods. This final treatment produces prints of maximum fastness and whites of excellent clarity. No acetic acid or hydrogen peroxide need be used when printing on dyed grounds.

Higher fastness ratings can be obtained by using a finishing treatment with a urea-formaldehyde or melamine resin. In the case of overprints or dyed

grounds, the resinous-copper complex may be combined with the resin and applied on the pad. No staining of pad liquor occurs when this method is employed; also, it is possible to change from heavy shades to pastels without loss of solution, thus affording a considerable saving in chemical costs.

Ogden Process for Simultaneous Stripping and Dyeing of Wool

By F. A. PRISLEY
Watson Park Co.

FOR THE simultaneous stripping and dyeing of woolen piece goods and stocks, the Ogden Process has been developed, eliminating the necessity for stripping reused and reworked materials before dyeing.

Savings in time and in the resulting quality of fabric and fiber are considerable when the process is employed. No expensive, hazardous, or unusual chemicals are required. The same equipment presently used for stripping and dyeing woolen piece goods and stocks may be employed for the Ogden Process.

Handling Piece Goods. Piece-dyed goods are prepared and loaded into the kettle in the usual manner and dyestuff, acid, and strip added (in that order) into a cold bath. Goods are brought to a boil in one hour and boiled for 30 minutes. At this point 10% calcined Glauber Salt is added; the boil is continued for 45 minutes; then goods are washed. Acid used depends on the type of dyestuff employed. Apparently stripping does not ordinarily vary critically with the kind of acid used. Behavior of certain dyestuffs on the fibers being stripped sometimes makes it necessary for consideration to be given to the kind and amount of acid used.

Generally, it has been found that each procedure, dyeing and stripping, works about the same in the combined operation as when carried out in separate baths. For example, if the goods required a preboil with ammonia to get the best possible bottom when stripped before dyeing, then the preboil is necessary for the same result by the Ogden process. Toning to shade is carried out in the usual manner.

Light fastness of colors used to date seems to be equal to that obtained when they are stripped and dyed normally.

Handling Wool Stock. Loose wool is loaded into the kettle as usual and dyestuff and acid added in that order into the cold bath. Temperature is raised to 180 F at which point the strip is added and the bath raised to the boil. More acid is added at the boil and boiling continued for 30 minutes. Chrome is then added and stock boiled 30 minutes, after which it is washed.

Fulling fastness shows no variation from that obtained by conventional methods of handling. If certain stocks ordinarily require an alkaline preboil in order to get certain shades, then it is included in the Ogden Process.

Results have been found to be satisfactory in practical operations. A patent application on the process has been filed.

Progress in Wetting Test Methods

By LEONARD SHAPIRO
Synthron, Inc.

A HYDROMETER METHOD for determining the rate of wetting of vertically extended tapes gives readily reproducible results, corresponding well to those of weighted and unweighted tape tests.

The hydrometer is prepared by blowing a length of 6-mm. Pyrex tubing to form two bulbs with a glass hook on the bottom one. One end of a 9" standard tape is attached to the glass hook while a 5-gram steel hook is inserted at the other end to keep the tape in a vertical position.

The lower bulb is weighted with mercury. A calibrated scale with zero point set at the level reached with the hydrometer and hook only is inserted in the neck.

The hydrometer, with tape attached, is lowered rapidly into wetting solution in a 1-liter graduate while time and scale readings are recorded. Observations are conducted for 75 minutes.

Varying concentrations of a single wetting agent produce curves which approach the same upper limit and do not cross. These curves correspond with results obtained from weighted and unweighted tape tests, but do not correlate with the floating patch test since the geometry of the two systems is entirely different.

In the floating patch test, the liquid enters through the lower surface of the fabric and from the cut edges. Air is dispersed from the top surface and partly through the edges. As observed from bubble formations, air escapes almost entirely from the upper cut edge of the tape, working its way through the interior of the fabric to the top. For slower wetting speeds, bubbles are released from points on the upper edge, which are probably paths of least resistance.

Cross-overs do not occur in the rate of wetting vs. concentration curves of vertically extended tapes,

except in the lower and upper extremities where accuracy is poor and significance doubtful. Cross-overs do occur when skeins, folded samples, or doubled samples are employed, due to mechanical air entrapment even after the cotton is completely wet out.

Marked reductions in wetting time of tapes is obtained by separating segments of the tape 3 mm while fixing together with staples, thereby furnishing more points along the tape's axis at which air can be released.

Among the various conditions which affect rewetting tests are padding temperature, time of immersion, time and temperature of drying, and the temperature of the rewetting medium.

Increasing the padding temperature to 80 C results in progressively better wetting. Increase in immersion time also improves wetting. However, pick-up is not improved by these conditions. This would suggest that partial cleaning of the cotton surfaces presents an improved surface for proper adsorption and orientation of wetting agents. There is no evidence of progressive exhaustion of surface-active material from the liquor.

As for the effects of drying and baking, baking at elevated temperatures following air-drying reduces the effectiveness of rewetting. Once the fabric is dry, additional drying at 100 C has no further influence.

SECOND PLACE

Continuous Dyeing of New Synthetic Fibers

Presented by
RHODE ISLAND SECTION
in the Intersectional Contest

SPECIAL VAT DYES and their leuco esters can be utilized for the practical continuous dyeing of polyester and acrylic fibers. With the exception of the Thermosol process, most fabric dyeing of these fibers has been by intermittent processing.

A "surface-stripping" test will determine the degree of vat dye penetration into Dacron fibers more rapidly than microscopic techniques will. In this test, vat dyes on the surface of Dacron fibers dissolve when treated in a solution of 1% caustic soda and 1½% sodium hydrosulfite at 120 F for 5 minutes with stirring. The dye that has penetrated the fiber remains unaffected.

Many aqueous dyeings of vat dyes on Dacron fibers can be made by continous processes, but a subsequent heat treatment is necessary in order to effect penetration of the dye particles into the fiber. The employment of pretreatments and the use of carriers or swelling agents offer no improvements in the dye application. The extent of diffusion into the fibers and the brightness of the resultant dyeings is a function of the physical state of the vat and leuco ester dye particles attached to the surface of the fibers.

DR. W. GEORGE PARKS of the University of Rhode Island presented the Rhode Island Section paper.

The optimum time and temperature of the heat treatment depends on fabric construction and ranges from one to two minutes at 430 F in a gas-fired curing box. Very little diffusion takes place below 400 F, while temperatures above 430 F approach the sticking point of Dacron. The brightness of dyeing is reduced with longer periods of exposure to heat.

After heat treatment, where diffusion of dye into the fiber has occurred, there is a considerable shade change which can be detected under ultra-violet light and by spectrophotometer.

On heat treatments without the use of chemical oxidizing agents, many leuco esters of vat dyes develop and penetrate into the fibers, thereby making possible a simple leuco ester application method.

Continuous plant dyeings of Dacron fabrics using methods described herein show excellent fastness to light and washing, and no crocking, wet or dry. The tendency of vat dyes to crock is eliminated by an aftertreatment using a "surface-stripping" with caustic soda and sodium hydrosulfite.

Conventional continuous methods of applying vat dyes and leuco esters to acrylic fibers such as Orlon, Acrilan, and dynel, produce only a surface coloration which exhibits inferior fastness qualities. However, commercially acceptable light shades can be produced with leuco esters, reduced vats, and acid vats, provided special attention is given to thorough soaping.

Heat treatment of vat dyeings on acrylic fibers does not improve dye fixation to the same extent observed on the polyester fiber Dacron. Acrylic fibers are generally inert and exhibit very little swelling to allow penetration. Long steaming periods would permit dye pentration into Acrilan, and dynel. Dynel is sensitive to temperatures above 240 F, while Acrilan yellows at 350 F. Moreover, the longer steaming times required make a continuous process impractical.

Cuprous ion pretreatment of acrylic fibers enhances their affinity for leuco esters of vat dyes

and improves fixation. The fact that some of the dyeings require boiling nitrite and acid for development is a strong indication that penetration of the dye into the fiber has occurred. The effectiveness of copper pretreatment varies with both the dye and the fiber.

Great depth of shade and good color fixation are obtained on acrylic fibers by the wool method of dyeing in applying leuco esters. The copper-pretreated fabric is dyed in the presence of formic and acetic acid for 40 minutes at 190 F, followed by development at 190 F with sodium bichromate, ammonium thiocyanate, and sulfuric acid.

Advances in Theoretical and Practical Studies of Gas Fading

By V. S. SALVIN, W. D. PAIST, W. J. MYLES
Celanese Corp. of America

GAS FADING is the fading of dyed fabric by acidic gases in the atmosphere which are formed in combustion processes. The importance of increasing the gas fading resistance of dyed fabrics was demonstrated recently when a study of the atmosphere over Los Angeles showed that nitrogen oxides (which have been found to be the active constituents of the combustion gases) are present at the rate of 2 parts per 10 million on a typical smoggy day. It was calculated that approximately 284 tons of these nitrogen oxides are liberated into the atmosphere of Los Angeles County by various combustion processes.

Blue and violet aminoanthraquinone dyes are most vulnerable to gas fading. As a result considerable difficulty was experienced in producing a full range of dyes for cellulose acetate; however the situation is much improved at the present time.

These same dyes do not fade on wool, nylon, or Orlon, but they do fade on the polyester Dacron. In practice the aminoanthraquinones are not used on cotton or viscose, but if they are applied to these fibers by vatting, they fade at a slow rate. It should therefore be stressed that the fiber as well as the dye plays a part in gas fading.

Gas fading of the aminoanthraquinones in cellulose acetate is due to the relatively great solubility of nitrogen dioxide in this material and the low rate of reaction with it. The gas is therefore free to diffuse through the fibers and to attack the dyes.

Gas Fading Inhibitors. Reduction of gas fading by partial saponification of the fabric or by covering the fibers with a less permeable polymer coating are usually not practical. A better method is to treat the fabric with some compound which will combine with the nitrogen dioxide (or nitrous acid, etc.) before it can fade the dye.

Inhibitors currently in use are of two types: fugitive and permanent. The fugitive inhibitors such as melamine, triethanolamine, or sodium acetate are applied in a finishing treatment and give reasonable protection depending on the depth of shade and the sensitivity of the dye. They act by maintaining an alkaline condition on the fabric.

The permanent, substantive type, which can be applied during dyeing, is represented by

One Exhibit Featured a Caricaturist at Work

One of the unique exhibits of the wet processing exposition held in conjunction with the AATCC annual convention was that of Virginia Smelting Co., featuring a series of ceramic cartoons entitled "Smilestones of Textile Progress."

Created by the noted caricaturist Burwell Abbott, the series depicted the development of textiles, beginning with the fig leaf era, reaching a climax with the advent of synthetic fibers, and ending virtually where it began with the Bikini bathing suit.

Not only were Mr. Abbott's cartoons on display—he was there in person, doing caricatures on the spot as shown in the accompanying photo. Here he sizes up C. Norris Rabold (left) president of AATCC, while Thomas T. Allan, of Virginia Smelting, looks on.

This was only one of the many devices employed by exhibitors to attract attention of those attending the show. Others such as Seydel-Woolley's gold fish and Socony-Vacuum's and Royce Chemical's guessing games, were also effective.

N,N' - diphenylethylene diamine. These are weakly basic aromatic amines which act by forming nitrosamines and ring-nitrosated compounds. These latter are generally rather yellow, and the use of these inhibitors is accompanied by a yellow discoloration, which is not too objectionable where the quantity of inhibitor is adjusted to the depth of the shade.

Static Problems and their Control

By JOSEPH A. LOPEZ
Kanmak Mills
and
JOHN K. HEWSON
The John Hewson Company

MORE EFFECTIVE and completely safe control of static electricity in textile manufacturing operations can be obtained by proper application of electronic equipment operating on the principle of "controlled diffuse discharge."

The equipment consists of a central station control that provides the high voltage source to which are connected, as a completely ballasted system, individual control bars in which each discharge point is exactly calibrated so that the amount of electrical discharge from each point is the same. It controls the static by blasting the fiber or cloth in process with electrical ions having a charge opposite to the charge already on the material. At the instant that the material has been neutralized by this means, the discharge from the control bars is immediately diverted to collecting targets built into the static control bars. The equipment is, of course, grounded and the excess discharge from the control points is automatically drained off to ground.

Over 20 different types of textile machines have been fitted with this equipment to date, with highly satisfactory results. These include: warpers, cards, draw frames, gill boxes, finishing machines, etc.

Static Control at the Loom. Static electricity contributes to the production of seconds at the loom:

(1) By attracting airborne dust and lint onto the warp. This dust is scraped off as the yarn passes through the drop wires or heddles, building up at these points. When these drop wires or heddles are disturbed, the accumulated dust falls onto the warp yarns and is, in turn, woven into the fabric.

(2) By causing the filling yarn to be attracted to some part of the loom, resulting in "looping" or a snag that will cause the loom to stop.

(3) By building up charges on the woven cloth which cause the yarns to repel each other, resulting in "cracks" in the finished cloth.

Efforts to overcome these problems by grounding the looms and by increasing the humidity in the weave room have been unsuccessful. Electronic static control equipment, properly installed, provides a solution.

Static in Knitting. When stockings come from the knitting machine they are loaded with static electricity and consequently are attracted to the operatives' fingers or to any projecting surface, resulting in snags and pulled threads. By installing a static control bar along the full length of the machine so that the stockings will pass over or under it as they are wound up after the knitting operation, pulled threads due to static electricity will be substantially decreased.

On hosiery boarding machines stockings frequently refuse to fold and stack properly as intended, but instead will flow off onto the floor, picking up dust and dirt and becoming subject to snags. Here again electronic static controls installed on the boarding machines at the point where the stocking is removed from the form will effectively control the static difficulty at this operation.

THIRD PLACE

Variables in Improving Crease Recovery of Cotton Fabrics with Synthetic Resins

Presented by
PHILADELPHIA SECTION
in the Intersectional Contest

CREASE RECOVERY and delayed crease recovery of cotton fabrics may be greatly enhanced by treatment with any one of a variety of resin-formers and reactants. In order to avoid loss of tear strength, it is necessary to select a suitable fabric and include a softener in the treatment.

Surface resins (polyvinyl acetate, polyacrylate, and acid-aged melamine) do not impart a crease recovery. Reactants (formaldehyde and modified urea-formaldehyde) are more efficient on a concentration basis than are resin formers (urea - formaldehyde, melamine - formaldehyde, methylated melamine-formaldehyde, and ketone-aldehyde).

Resins and reactants improve crease recovery at expense of tear strength. Loss in tear strength is greater at the start; i.e., the tear loss accompanying a gain of 30° in crease recovery may be two-

thirds that resulting from a gain of 60°. The resin formers appear to give greater strength at equal crease recovery than do the reactants, except for certain fabrics where the effect seems equal.

Stronger catalysts give greater efficiency from a given concentration of resin. No great improvement in the the crease recovery/tear strength ratio is likely to result from use of a certain concentration of a certain catalyst. Curing conditions do not appear to be critical.

Pre-mercerization has a relatively slight but beneficial effect. After-mercerization reduces both crease recovery and tear strength to roughly a proportionate extent if the fabric is not allowed to shrink. If the fabric is allowed to shrink under tension during mercerization, an improvement in the crease recovery/tear strength ratio may result.

Stiffening agents tend to reduce either tear strength or crease recovery, or both, but a small amount of stiffener can be tolerated. Softeners tend to improve crease recovery and tear strength but the degree of improvement varies widely with fabric construction and with the type of tearing force. Different softeners vary in the degree to which they improve crease recovery and tear strength.

ALBERT C. NUESSLE of Rohm & Haas delivered the Philadelphia Section's paper which won third place.

The cationic softener seems completely ineffective for improving crease recovery or tear strength, while alkyld emulsions and durable water repellents show a trend in the desired direction although the magnitude is small.

The stronger fabrics generally, but not always, remain stronger after resin treatment. The improvement obtainable through the addition of softener varies widely with fabric type.

Measured by the Trapezoid test, warp and filling tear strength losses are roughly proportionate, but measured by the Elmendorf test, strength losses may be quite disproportionate, depending on fabric type.

Organic Complexing Agents in Textile Processing

By JOHN J. SINGER
Bersworth Chemical Co.

SODIUM SALTS of ethylene diamine tetra acid will inactivate calcium and magnesium salts, as well as most metallic ions immune to polyphosphates. Once complexed by these EDTA (abbreviation for ethylene diamine tetra acetic acid) salts, metal ions cannot be precipitated by ordinary precipitating agents. EDTA salts, manufactured under the name of Versene, are finding popular acceptance as water softeners for scouring, kier boiling, mercerizing, peroxide and chlorite bleaching, and dyeing operations.

Use of adequate quantities of Versene in scouring prevents formation of insoluble soaps. Dye resists due to the reaction of iron, copper, zinc, and other metals with the dyestuff are minimized, if not completely eliminated by these salts. Versene Fe-3 complexes iron in a pH range of 3 to 12.5.

Residual soap content is practically zero after one rinse in EDTA salts-softened water. With most synthetic detergents, EDTA salts exert a synergistic effect by improving the detergent's inherent qualities. High concentration of soda ash and polyphosphates can be avoided by scouring wool cloth in the presence of EDTA salts, thereby resulting in a more resilient, softer fabric.

During kier boiling, iron present in the water, caustic, machinery, or cloth itself may precipitate as the hydroxide and deposit on the cloth. Besides causing stains, iron deposits may catalyze the decomposition of peroxide in the subsequent bleach, forming an oxy-cellulose which has little tensile strength.

Versene T, effective as an iron complexing agent only in caustic solutions, overcomes iron problems during kier boiling. The iron complex formed is colorless, stable, and won't precipitate when the caustic is diluted. It will be removed in the rinse.

Most users of Versene T start with a concentration of one gallon of the salt in every 500 gallons of caustic solution. This concentration will assure complexing of all iron under normal operating conditions. The concentration should be reduced to the lowest level at which iron contamination is complete, although allowances should be made for the day-to-day fluctuations in iron concentration.

Versene T is inert towards metallic iron but it will dissolve accumulated rust and iron corrosion residues. Until all corrosion residues which might be present are removed, larger quantities of the salt than normal will be required. Equipment remains clear and free from scale and dirt deposits.

Where a processing solution is strongly caustic initially and is later neutralized to neutral or acid pH's, iron is controlled by using a mixture of Versene T and Versene Fe-3 Specific. Versene T complexes the iron in caustic solution and the Versene Fe-3 Specific

takes over when the caustic solution is neutralized.

Versene T eliminates dangers of iron impurity in caustic recovery systems and the mercerizing process. In the latter, iron contamination is controlled in exactly the same way as in the kier operation.

Versene and Versene Fe-3 Specific stabilize peroxide solutions by inactivating metallic ions which catalyze peroxide decomposition. If 0.05% complexing agent is present, most of the calcium and magnesium salts in the water will be inactivated and can no longer react to form silicate scale. Copper and most other metals are inhibited by EDTA salts even though all the salts have been reacted with calcium or magnesium.

If the amount of iron present is known, then 13 parts of Versene Fe-3 Specific are required for every part of iron scale as Fe_2O_3. Otherwise one gallon of Versene Fe-3 Specific per 500 gallons of bleach solution is recommended. To obtain best results, 0.05% Versene should also be present in the peroxide bath. Peroxide solutions so stabilized are suitable for use in either batch or continous procedures.

The salts of EDTA are also used as an additive to dye baths to overcome the effects of metal ions. Nitrogen, carboxyl, and hydroxyl groups of the dyestuff molecule react with metallic ions to produce complex metal compounds having properties different from the original dyestuff.

Reflectance curves made with a G.E. recording spectrophotometer have demonstrated that the curve of a dyeing containing EDTA salts has the same shape as the curve obtained from the same dye in distilled water, although a 5% loss of reflectance is shown. The curve can be made to coincide exactly with the pure dye bath if a slightly greater amount of dyestuff is used.

Textile Applications of Brighteners

By O. L. SHERBURNE
General Dyestuff Corp.
and
DR. J. P. G. BEISWANGER
General Aniline & Film Corp.

BRIGHTENER products might find expanded usage if a non-subjective and relatively simple instrumental means of brightener evaluation were available. The accuracy and reproducibility of visual methods leave much to be desired.

The colorimetric techniques employed by the soap industry in the evaluation of brightening agents can be extended to textiles. Brightness and reflectance of a brightener treated fabric can be measured by means of filtered ultraviolet radiation. Part of the radiation is reflected and part absorbed. A large portion of absorbed radiation is re-emitted as visible fluorescence.

A photocell covered with a filter which passes only ultraviolet radiation will detect only the reflected ultraviolet and hence measure ultraviolet reflectance. The brightness of fluorescent emission is measured by the same photocell covered with a filter which passes through visible radiation only. Measurements can be standardized by adjusting photocell response to a standard opal glass plate.

A dollar comparison of samples may be made by the use of the relation: Brightness per Dollar = Standard Brightness/Price per Pound X Concentration Required to produce a Chosen Standard Brightness.

Brighteners, according to test results, will improve the bleach process tremendously. Material which had been partially bleached and then soaped in the presence of brightener was found to be whiter than material which received a full bleach but was soaped without brightener.

Muslin sheeting partially bleached in the presence of brightener was also whiter than its counterpart which was fully bleached but not in the presence of brightener. Brightening agents exhibit stability to bleach liquors and distribute evenly on the cloth.

Brightness values progress increasingly with bleach time. Reflectance values show a decrease in the amount of ultraviolet radiation absorbed with increased bleach time.

Brighteners also prove vaulable in treating vat and acid printed fabrics. Soaping print goods in the presence of a brightener agent yields a whiter background.

Attachment of Dyes to Cotton by Ether Linkage

By JOHN D. GUTHRIE
Southern Regional Research Lab.

CERTAIN acetate dyes containing the sulfatoethyl group—CH_2-CH_2OSO_3H were applied to cotton by the use of procedures similar to those found effective for aminization with 2-aminoethylsulfuric acid. Actual union with cellulose by ether linkage was demonstrated by Solacet Fast Yellow GS, the only one of these dyes which was soluble enough in strong sodium hydroxide to be applied by the one-solution method where the dye itself is used as the etherifying agent.

However, a number of sulfatoethyl dyes, which react with cotton like Solacet Fast Yellow but with better solubility in sodium hydroxide, can be made by diazotizing 2-(p-aminophenoxy) ethylsulfuric acid and coupling it to substances having solubilizing phenolic or sulfonic groups.

The dye is prepared by dissolving 1.0 g of 2-(p-aminophenoxy) ethylsulfuric acid in 13 ml of water and 1.0 ml of concentrated hydrochloric acid, and then diazotized at about 13 C, with 0.3 g of sodium nitrate. After cooling to less than

5 C this solution is poured slowly into an ice-cold solution of 47 g of p-cresol and 1.35 g of sodium carbonate in 9 ml of water. The resulting mixture is then warmed to 50 C, and the dye salted out by the addition of 1.0 g of sodium chloride and separated by filtration.

The dyes can be coupled with other phenolic substances besides p-cresol as the accompanying table summarizes:

Coupling Agent	Color When Etherized with Cotton Fabric
p-cresol	yellow
resorcinol	yellowish orange
1,8-dihydroxy-3,6-disulfonic acid	purplish red
1-amino-8-napthol-4-sulfonic acid	reddish blue
2-napthol-3-6-disulfonic acid	red
2-napthol-6-sulfonic acid	peach pink

The usefulness of these dyes as additives in the aminization process is demonstrated by adding 100 mg of the resorcinol dye to 10 ml of a solution composed of 65 parts of water, 25 parts sodium hydroxide, and 10 parts 2-aminoethylsulfuric acid. The colored solution is applied to fabric and cured for 1 hour at 100 C. After washing, the fabric is orange colored.

The presence of amino groups is demonstrated by decolorizing with hydrosulfite and dyeing with Kiton Fast Red. The fabric dyes dark red, while a control fabric etherized with resorcinol dye alone and similarly decolorized, will dye very little with Kiton Fast Red.

Decolorization with hydrosulfite, of cotton colored by etherification, leaves the 2-(p-aminophenoxy) ethyl group attached by ether linkage, thereby making it possible to diazotize the decolorized fabric and restore the color with a phenolic compound.

Fabrics colored by etherifying dyes to the cellulose as described have outstanding wash fastness but the lightfastness is only fair.

Developments in Dyeing Synthetic Fibers

Presented by
MIDWEST SECTION
in the Intersectional Contest

NYLON can be dyed with practically any group of dyestuffs. High temperature dyeing or hyperthermalized process of dyeing produces excellent color depth, fastness to pre-boarding, washing, and cross dyeing, as well as savings in time, chemicals, and dyestuffs in processing nylon.

A 2% Capracyl dyeing with 1% Duponal at 250 F yields colors on nylon which are superior in fastness to those produced by the more commonly used dyestuffs. 2% Capracyl colors can be stripped with 10% Sulfoxite S conc., and 5% acetic acid (28%) at 200 F for 1 hour. Fade-Ometer fastness of Capracyl colors is excellent after 100 hours exposure.

For a fast black on nylon, mordant with 1% bichromate and 3% acetic acid starting at 120 F. Gradually raise to boil, and run for ½ hour at 230 F. Wash in cold water and follow with 25% oxidized logwood (crystal form) and 5% soap started at 120 F. Run at 230 F for one hour. Wash and resist.

A. P. ROY of Dean & Sherk Co., Lawrenceburg, Ky., presented the Midwest Section paper in the Intersectional Contest.

Saran shows good results with certain acetate dyes, and can be subjected to operating temperatures varying from 150 F to 250 F.

Acid and chrome dyes cause Vicara to shade differently from the wool component in a blend. A two-tone effect may result from the dyeing operation unless colors are properly selected. The fiber's naturally yellow shade can be bleached or stripped, producing a white base for dyeing pastel pinks and blues.

Vicara and wool blends produce a better knitting yarn when dyed on package equipment rather than skein. Yarn has a tendency to be held in a taut position on the dytex tube, thus eliminating shrinkage of the wool component.

Acetate and azoic groups will produce maximum color values and leveling effects on Dacron at 250 F without carriers and with 30% less dyestuffs. Colors must not be volatile under fixation conditions or be adversely affected by heat or sublimation. Bleeding or crocking resulting in colors which do sublimate can be avoided by a light strip with 4% Sulfoxite S and 2% acetic acid at 180 F for 15 minutes. Navy blue can be produced with acetate or diazo colors on filament or spun Dacron.

Orlon can be dyed with acetate, indigoid and thiondigoid vat colors, several basic colors, and by the cuprous ion method. Compared to the cuprous method, vat dyeing is costly even though these dyes will produce deep shades on Orlon at high temperature. Vats are also better for light fastness, while good washfastness is exhibited by both groups.

In dyeing by the cuprous ion method, the addition of phenol about five minutes before the temperature is raised to 250 F will stabilize and reduce decomposition of the acid color at this temperature.

Characteristics of Cotton Fabrics Processed in Continuous Bleach Systems

By T. E. BELL and N. J. STALTER
E. I. du Pont de Nemours & Co.

SAMPLES of various type fabrics received from mills operating two-stage rope continuous peroxide bleach systems were evaluated. Process: caustic scour, alkaline-hydrogen peroxide bleach, singed and desized before caustic scouring.

Whiteness & Retention. Whiteness varied from a low of 80.3% to a high of 93.0%. While some of this variation resulted from differences in fabric construction, it was mainly due to variations in scouring and bleaching processes and was especially affected by the concentration of hydrogen peroxide in the bleaching step.

When bleached samples were subjected to an accelerated ageing test they reverted in color and the cloth varied in whiteness from 74.6% to 85.4%. This is equivalent to a whiteness retention of between 88.2% and 98.1% of the original bleached whiteness. Generally speaking, fabrics which were whiter at the start actually showed a greater reversion than those fabrics which were not so well bleached originally.

Fluidity. Fluidity values of 16 fabrics were obtained as they passed through the system, to determine the modification or degradation of cellulose.

Little or no change in fluidity resulted from the desizing process where samples were desized with enzymes but not acid treated, the average being 2.1 as compared with 2.2 for grey cloth. The same was true when the fluidity was measured after the caustic scouring treatment (average, 2.3). After the peroxide bleaching step, the average fluidity had been increased to 5.3. Experience seems to indicate that the best overall bleaching results are obtained when the fluidity of the finished fabric falls between 4.0 and 6.0. In general, if fluidity values are below 4.0, the fabric is likely to be less absorbent and not thoroughly prepared for subsequent finishing operations. Values above 6.0 may indicate that the cloth has received more bleaching than is absolutely necessary for most purposes.

Absorbency. Absorbency of bleached fabric is also a measure of the completeness of the bleaching process. After singeing, desizing, and caustic scouring the absorbency of the fabrics tested varied from 0.4 seconds, which is extremely good, to about 300 seconds, which can be considered poor.

Following the peroxide bleach these samples were again tested and showed a variation in absorbency from 0.3 seconds to 11.3 seconds. Average of the 16 samples tested was 3.0 seconds, well within the limit of 5 seconds which is considered satisfactory.

Non-Cotton Content. Samples of the grey goods, the desized fabric, the caustic treated fabric, and the bleached fabric were analyzed to determine the per cent non-cotton (which includes oils, fats, and waxes) remaining in the fabric after processing.

Grey cloth was observed to have an average non-cotton value of 9.9%. After desizing, it was reduced to 2.19%; after caustic treatment, 0.99%; and after bleaching, 0.39%. It was concluded that almost any degree of purification can be obtained in the continuous bleaching process without adversely affecting the fabric as measured by the fluidity values previously reported.

The per cent of oils, fats, and waxes on grey cloth averaged 0.82, and on desized cloth 0.77%, indicating that desizing and grey souring have little effect upon waxy components. The cloth after caustic scouring had an average value of 0.43% or about 50% less than the grey value as was expected. The same fabric after the peroxide treatment had an average value of 0.24%, a high of 0.55% and a low of 0.01%.

Fabrics having the extremely low values were enzyme-desized and grey soured. The rest were enzyme-desized only.

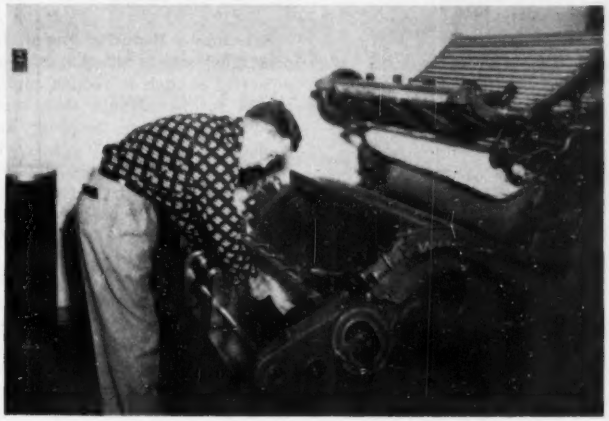
Ash Content. Average per cent ash content of the grey cloth samples was found to be 0.99, with a high of 1.29 and a low of 0.79. After bleaching, average of the 16 samples was 0.18%. By contrast with the oils, fats, and waxes determination, the method of desizing apparently has no effect on the ash content. The samples which were soured had values averaging 0.177%, almost identical with the overall average of 0.18%. This is somewhat surprising since the souring operation generally is considered helpful in lowering the ash content.

Applications of

CERTAIN problems arising in textile dyeing and finishing may be solved by means of infra-red techniques, utilizing the knowledge that reflection and absorption of infra-red radiation by colored materials is unlike that of visible radiation, and infra-red radiation can penetrate much more deeply into the material toward which it is directed than ordinary light.

Infra-red photographic methods

Student Section Contest Winner Lynch



Graduate of New York State's Institute of Applied Arts and Sciences is now employed by Mohawk Carpet Mills.

When TI's northern editorial representative visited New York State's Institute of Applied Arts and Sciences in Utica earlier this year, the school's textile division instructors pointed out Robert J. Lynch as one of their most promising students.

Robert had much cause to be dubbed "most likely to succeed." A second shift job in the card room of Utica Knitting Co. did not interfere with his achievement of a straight "A" school average.

Much impressed, TI's editor photographed Robert in action midst the machines with which he would make his career. . . and filed away the prints.

The time has come to bring those prints out of the files.

To Robert went AATCC's award for one of the best student research papers of 1951. Entitled "Relative Effects of Temperature on Moisture Content of Cotton and Wool Fibers, Yarns, and Fabrics," it was presented at the convention by Patrick J. Kennedy of E. I. du Pont de Nemours & Co., Inc.

Now a graduate of the Institute, Robert is employed by Mohawk Carpet Mills, Inc., Amsterdam, N. Y.

Infra-Red Photography in Textiles

Submitted by
C. FRANKLIN DONYES
North Carolina State College
in the Student Section Contest

may possess advantages over visual inspection or panchromatic photography. White goods can be penetrated, while many colors can be penetrated or rendered as white. Several other possibilities present themselves: over-dyed colors can be made visible; areas of poor penetration can be detected; certain types of abrasion may be exaggerated; and photographs may be made of the interior of processing equipment which is obscured by haze or steam.

The equipment consists of a Crown Graphic camera with ground glass focusing plane and equipped to handle removable cut film holders. Infra-red film is used with a Wratten A filter over the lens for preventing admission of blue light. Lighting consists of two 11-inch photo reflectors, each equipped with a No. 2 Photoflood and set 3 feet from the plane of the subject at an angle of 45°.

The smallest aperature possible is used in order to avoid focusing corrections due to the longer wave length of infra-red rays. A control negative is taken with ordinary light and Super Pan Press cut film. The infra-red negative and its control counterpart are printed in sets with particular care being taken to obtain equal contrast. The best way to accomplish this is to use Kodabromide F2 enlarging paper for all prints and to regulate the exposure in such a manner as to reproduce typewritten identification marks attached to each sample as similarly as possible.

Effect of Agitation on Wool Dyeing

Presented by
NO. NEW ENGLAND SECTION
in the Intersectional Contest

THE APPARATUS used for investigating and defining the effect of agitation on wool during dyeing consisted of a Burrell wrist-action shaker, vibrated at a constant rate of 360 cycles per minute. Variations in agitation were obtained by changing the amplitude or arc through which the shaker vibrated.

Flasks were clamped so that the distance from the surface of the dyebath in the flask to the shaker arm was the same in all cases. Dyeings were made on a wool serge fabric which had been scoured with non-ionic detergent and rinsed. Individual samples were dyed for lengths of time

varying from 1 minute to 120 minutes.

After dyeing, the samples were cold water rinsed and air dried, then measured for reflectance by spectrophotometer. The dyebath, cooled to room temperature, was measured for light transmission by photelometer.

Results of the test show that agitation in any form or amount increases the dye rate. In the absence of agitation, the equilibrium exhaustion approaches that of dyeings made with agitation, but at a slower rate. The amount of dye deposited in the first immediate stages of dyeing is directly proportional to the degree of agitation. In the case of unlevel dyes, excessive agitation might be disadvantageous.

Increasing the energy in the dye bath has no effect upon the amount of dye deposited per unit weight of fabric in the initial dyeing period but does increase the dyeing rate. Also, doubling the force does not appreciably change the equilibrium exhaustion values.

FRED SHIPPEE of Lowell Textile Institute read the paper prepared by members of the Northern New England Section.

The time of half dyeing is reduced by an increase in agitation due to the larger amount of dye deposited instantaneously on the fibers. The effect of energy on half dyeing time is small but measurable.

Increased agitation increases the length of time before "ring disappearance" occurs, indicating a decrease in the rate of diffusion of the dye into the fibers as a result of reduced concentrations of dyestuffs on the fiber surfaces.

Copper Method for Dyeing "Orlon"

By R. H. BLAKER and J. F. LAUCIUS
E. I. du Pont de Nemours & Co., Inc.

STUDIES of the use of copper salts as assistants in dyeing "Orlon" acrylic fiber have lead to the development of a satisfactory procedure for dyeing polyacrylonitrile fibers in general with selected acid and direct colors.

The unique feature of this new procedure is that copper in the cuprous valence state is employed. A cuprous salt of an acid dye is formed within the fiber.

Cuprous ion is first absorbed by Orlon, forming co-ordinate bonds with selected nitrile groups which are apparently arranged in a specific configuration; the dye then forms a salt with the weakly bound cuprous ion. Each cuprous ion absorbed provides one potential dyeing site for a monovalent dye anion.

The dyeing procedure required by the copper method is, in principle, very simple. The copper may be added to the dyebath in the form of cuprous salts, but since the cuprous ion is not very stable in aqueous solution, it is preferable to add a cupric salt and a suitable reducing agent to produce the cuprous ion at approximately the same rate as it is absorbed by the fiber.

A wide variety of acid and direct colors may be used, the principal requirement for the dye appearing to be at least one sulfonic acid or carboxyl group in the molecule; more than one acid group in the molecule seems to reduce the dye affinity.

Selecting a Reducing Agent. In principle, any reducing agent powerful enough to reduce cupric copper to the cuprous state may be used. In practice, however, the choice of reducing agents is limited to those which do not destroy the dyestuff and to those which reduce the copper at approximately the same rate as it is absorbed by the fiber.

Hydroxylamine sulfate has been found to be particularly useful as a reducing agent in the copper dyeing method since, in addition to reducing the cupric salts, it forms a soluble complexion with the cuprous ion. The stability of this complex is such that the cuprous ion is readily available for absorption by Orlon. There is no significant color decomposition with hydroxylamine sulfate; dyeings proceed smoothly, and no particular care has to be exercised in adding the color or in controlling the rate of heating.

Condition for Dyeing. The rate of absorption of copper is the controlling factor in the dyeing. The overall rate of dyeing is much greater at 212 F than at 206 F or 200 F, and in practice dyeings made by the copper method should be as close to 212 F as possible if adequate exhaustion is to be achieved in a reasonable period.

The amount of cuprous ion absorbed and hence the dyeability of Orlon depends on the pH of the dyebath. Successful dyeings can be made in the range of 1.5 to 5, although in practice it is desirable to maintain a pH of 2 to 3.

The nature of the salts added to the dyebath has an influence on the rate of dyeing. The rate in the presence of hydroxylamine sulfate and cupric sulfate is satisfactory but may be much less if certain other ions, particularly those which can form complex ions with cuprous copper, are present in the dyebath. Hydroxylamine hydrochloride, for this reason, is not suitable as a reducing agent. Also, it may be well to avoid use of dyes which are standardized heavily with sodium chloride.

Study of Effects of Fabric Construction and Mercerization on the Light and Wash Fastness of Vat Dyes

Presented by
SOUTHEASTERN SECTION
in the Intersectional Contest

COMMERCIAL fabrics having a wide variation in construction, manufactured in the same mill from the same cotton mix, were vat dyed with colors which normally exhibit a fastness to light and washing ranging from poor to very good.

The fabrics (drill, sateen, and chafer weighing 4.6 to 12.54 ounces per yard) were singed, then desized. Samples representing one-half of each construction were mercerized, and this portion, together with the unmercerized portion was bleached.

Samples of each construction, bleached and mercerized bleached, were then dyed with Vat Yellow GC paste, Ponsol Yellow 5GLL, Vat Blue BCS, and Indigo MLB.

Microscopic and visual studies reveal that penetration and depth of shade rendered in a standard dyeing procedure vary with the construction of mercerized or unmercerized fabrics. However, the mercerized samples exhibit a greater depth of shade than their unmercerized counterparts.

Construction has no influence on Fade-Ometer fastness value. Mercerization does not induce any change in lightfastness. But, a comparison of light fastness of various dyestuffs on the same fabric construction and preparation shows extreme variations in each instance.

There is no appreciable effect of fabric construction or mercerization on wash fastness. There are, however, slight differences in wash fastness according to the dyestuff species.

DR. J. L. TAYLOR of Georgia Institute of Technology read the Southeastern Section's entry.

Skin Irritation Tests for the Textile Industry

By LOUIS C. BARAIL
United States Testing Co.

ADVANTAGES afforded by the animal intradermal single injection method for testing fabrics, dyes, finishes, and other chemicals used in the textile industry for the presence of primary skin irritants and cutaneous sensitizers make it the most practical of four methods investigated recently.

The patch test on animals was found to be of little value because of its too numerous imperfections and chances of error.

Results obtained with the hypodermic injection on animals did not correspond with the human patch test.

The intradermal injection into humans was found to be quite reliable as a screening test; however, it has, among numerous disadvantages, the difficulty of finding subjects who accept to participate in the test, and marks which sometime remain at the site of the injections for long periods of time.

Advantages of the animal intradermal single injection method can be enumerated as follows: simplicity, short duration, low cost, accuracy and reproducibility as great as that of the United States Public Health Service patch test.

The main feature of the method is the preparation and aseptic injection of sterile extracts which are always made in an autoclave at a pressure of 15 pounds for 20 minutes. As the best extracts are isotonic, the vehicle of choice is normal physiological saline solution, containing 0.85% of sodium chloride in freshly distilled water. U.S.P. olive oil may be used as the vehicle when it is known that most of the constituents of a given substance are insoluble in the saline solution.

Experience indicates that the concentration of the extract of solid materials should be 5% whenever such materials would normally be patch-tested on human beings in their natural state, for instance, as garments ready to be worn. Liquid finishes are also extracted in 5% amounts when they can be used in concentrated form for patch-testing on human beings by means of impregnated gauze. However, most of the time it is necessary for them to be extracted in much lower concentration such as 1%, 0.5%, etc., because they are much too irritating in their natural form.

The fabrics or chemicals to be tested are placed in adequate a-

mounts in Erlenmeyer flasks or test tubes, and the vehicle is added to obtain the proper concentration. The flasks or tubes are stopped with non-absorbent cotton and placed in an autoclave.

The American Chinchilla rabbit was found to give results which were confirmed by the patch test on human beings.

The best spot for the intradermal injection in the rabbit is the side of the animal, and the choice area is a zone located two inches at the right or the left of the spine, parallel to it, 2 to 3 inches wide, and ending 3 to 4 inches away from the neck and tail. Six to eight injections can easily be made in this area.

Before making the injection, the freshly shaved and scratchless skin of the animal is gently washed with 70% ethyl alcohol. The needle is then introduced into the skin below only a few layers of skin tissue, and the injection is made very slowly. Best results are obtained with needles made especially for intradermal injections. Under no circumstances should beginners use hypodermic needles for this purpose.

The standard amount of 0.5 cc of irritation to very definite and never varies, regardless of the concentration or the vehicle employed. Injections should be spaced about 1¼ inches apart to prevent confusion when interpreting results. During the injection, the external layers of the skin dilate and distend under the slight pressure of the fluid, thus creating a hemispherical blister having approximately the same diameter as a dime.

The skin of the animal is observed 24 hours after the injection. If the material does not contain primary irritants, no trace of the injection is left on the skin. If it does contain primary irritants, the skin shows a reaction which can be evaluated in 5 degrees of intensity from very slight trace of irritation to very definite and spreading reaction.

To determine whether a material is a cutaneous sensitizer, an injection of the same amount of the same material is made on the same animal 10 to 15 days after the first one. This method is especially useful when the first injection indicates the absence of primary irritants and prior to conducting a patch test on human beings. The patch test will definitely be unnecessary if the second injection indicates the presence of cutaneous sensitizers. On the other hand, if the sensitization test is negative it will be advisable to confirm the results of both tests by conducting a patch test on human beings.

Simple Mechanical Means of Judging Hand

Presented by
SOUTH CENTRAL SECTION
in the Intersectional Contest

THE EVALUATION of hand is largely an art practiced by a skilled finisher. A mechanical aid would conserve the craftsman's skill for final decisions. However, measurements made with available devices do not correlate well with manual methods or with other devices. while small differences in hand are difficult to detect.

D. H. GUNTHER of Burkhart-Schier Chemical Co., presented the South Central Section's paper at the annual convention.

A simple device has been developed which incorporates a fabric compression characteristic of the crushing motion found in hand evaluating. A 9″ x 9″ swatch is hand cranked through a porcelain pot-eye. The amount of pressure required to pull the cloth through is recorded on a tensometer.

Manual evaluations of drape are closely in agreement with those obtained by this "ring method" machine. Results are definitely closer than those obtained with other devices. The maximum tension recorded is a rough compendium of softness, flexibility, and lubricity. The greater the value, the less the degree of softness of the sample.

The stiffness of yarns can be readily measured by an instrument which will indicate the bending modulus, the deflection from horizontal of the yarn when only one end is supported.

Yarn is threaded from the supply package through two jaws located four inches apart, with provisions for maintaining constant tension. The yarn is cut flush to one of the jaws. The unsupported end falls down and across a centimeter scale. Five readings can be made in less than three minutes.

This instrument has already been used to determine the effect of softening agents upon yarn flexibility and in doing so, confirmed previous findings that knitting yarn treated with more than 2% softener felt stiff or "loaded."

AN INDEX OF ARTICLES appearing in "Textile Industries" during 1951 has been published as a supplement to this, the December issue. May we suggest that you retain it for future use.

Highly Efficient Slasher Cover

20-25% increase in operating speed noted on 3224 ends of 19s yarn.

EXCLUSIVE

Staff Prepared

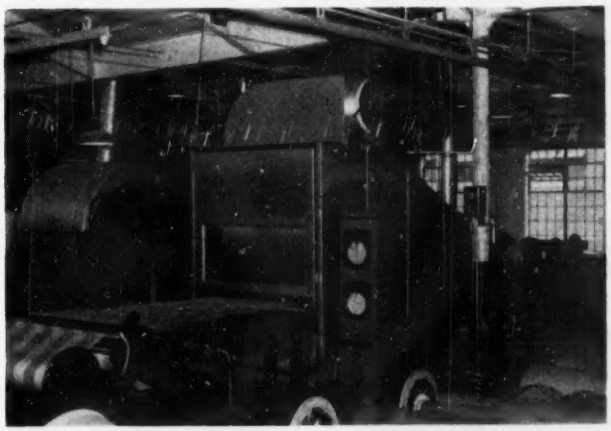
AN EFFECTIVE slasher cover has been in use at Fieldcrest Mills, Draper, N. C., for over a year. It is a design developed at the Institute of Textile Technology in Charlottesville, Virginia. Ralph Feil, of the Institute, was chiefly responsible for the design work.

The unit at Fieldcrest is the only cover of its type now in mill operation, but two more are planned for installation in the near future so that all three of the slashers in the mill will soon be enclosed.

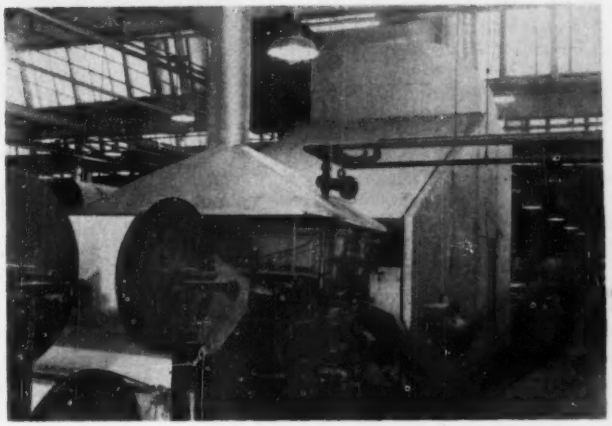
The covered slasher at Draper is a Saco-Lowell, two-cylinder model which is used in sizing 19s single warp, 2000 to 3500 ends. The cover is built of two layers of sheet aluminum which sandwich a 2-in. filling of rock wool. It completely encloses the cylinders, a narrow slit being left open at each end to provide entrance and exit for the yarn. A glass window is framed across the front of the cover so that operators may see the yarn passing over the cylinders.

The slasher cover has permitted a 20-25% increase in operating speed, 3224 ends of 19s yarn being run at 30 yards per minute.

Principle of Operation. The purpose of the cover is to retain the heat from the cans within the drying area and to direct the flow of air around the yarns. Exper-



GLASS WINDOW is framed across the front of the cover so that operators may see the yarn passing over the cylinder. Slasher is equipped with Foxboro moisture controllers, Taylor Fulscope regulators for size box temperature, and Foxboro pneumatic loaders for squeeze rolls.



EXHAUST FAN is located at the top of the cover directly above the slasher. A shutter type valve regulates the amount of air exhausted by the fan, and it is usually operated with the valve set to permit an air flow of about 7000 cfm. Driven by a 7½ hp motor, the fan has a capacity of 10,000 cfm.

ience at Fieldcrest is that the cover permits better drying than is possible with the cans exposed to ambient air currents in the slasher room.

A 10,000 cfm fan, driven by a 7½ hp motor, exhausts air from the enclosed area around the cans. The fan is located at the top of the cover directly above the slasher. A shutter type valve regulates the amount of air exhausted by the fan, and it is usually operated with the valve adjusted to permit an air flow of about 7000 cfm. Exhaust air is carried outside through a 26 in. diameter flu of sheet metal.

Air enters the enclosed area through openings near the floor, flows around the cans, and is then exhausted as warm, moisture-laden air. Particles of dust-laden moisture do not drop onto the yarn, a condition which presents a problem on uncovered slashers.

The cover permits increased speed and improved yarn quality, and makes the slasher room a much more comfortable place in which to work. There is no heat radiated from the insulated cover as compared to the enormous amount of heat constantly radiated from conventional, uncovered slashers. Naturally, the operators like the cover.

Other Slasher Auxiliaries. All of the slashers at Fieldcrest are equipped with Foxboro moisture controllers, Taylor Fulscope regu-

Picker Evener Adjustment Made

By R. A. COX
Belton Mills
Belton, S. C.

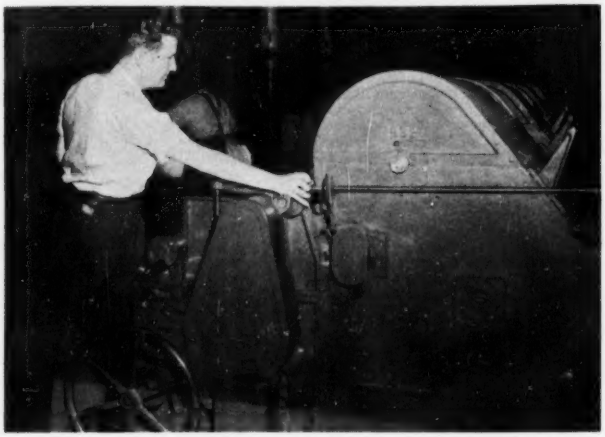
LAP WEIGHT is under the control of the picker doffer. If he is not constantly attentive and on the job, lap weights may vary a pound or even two pounds before he makes the necessary adjustments to bring the lap back to correct weight. These off-weight laps cause trouble if they get into the mill, and even if they are caught as they come from the picker, they represent wasted picker operating time.

One of the reasons for off-weight laps is the relatively inaccessible location of the evener adjustment on the conventional picker. The doffer's job is mostly at the front of the picker, and if he must walk around to the side to make an adjustment, he will put off the job as long as possible.

To make his job easier, we have extended the adjustment control so that it is handily located at the front of the picker. Making this extension is fairly simple. The turnbuckle on the conventional evener has had welded over it a 12-pitch gear, this gear meshing with another 12-pitch gear with a three-inch face. The extra face width permits the first gear to move up and down while still in mesh. The accompanying illustrations show the arrangement in detail.

The gear with the three-inch face is mounted on a shaft which extends up above the evener box, ending with a bevel gear. Meshing with this bevel gear is another bevel mounted on a horizontal shaft running, through bearings, to the front of the picker where it terminates with a small hand wheel.

ADJUSTING EVENER MOTION. R. A. Cox, night overseer of carding at Belton (S. C.) Mills, makes an adjustment of the picker evener motion by turning the handwheel on the control extension that he developed. Necessity for picker operator to walk to side of machine to adjust evener is eliminated.



lators for size box temperature, and Foxboro pneumatic loaders for the squeeze rolls. These loaders automatically maintain proper pressure on the squeeze rolls throughout the run. Pressure is released by cutting off air pressure on the loader.

The management of Fieldcrest is satisfied that the slasher cover is a good investment, the cost being quickly paid for in increased output, improved quality, and more comfortable conditions.

Cotton Research Clinic to be Held in Pinehurst

The 1952 Cotton Research Clinic will meet at Pinehurst North Carolina, February 13-15.

Following the pattern of previous years, the clinic will concentrate on the industry's most pressing technical needs. Detailed plans for the meeting will be announced later after the program has been reviewed by the clinic's advisory committee, headed by M. Earl Heard, vice-president and director of research of West Point Mfg. Co.

The report of the 1951 clinic, together with its summary of current cotton research, is now available through the National Cotton Council's Washington office.

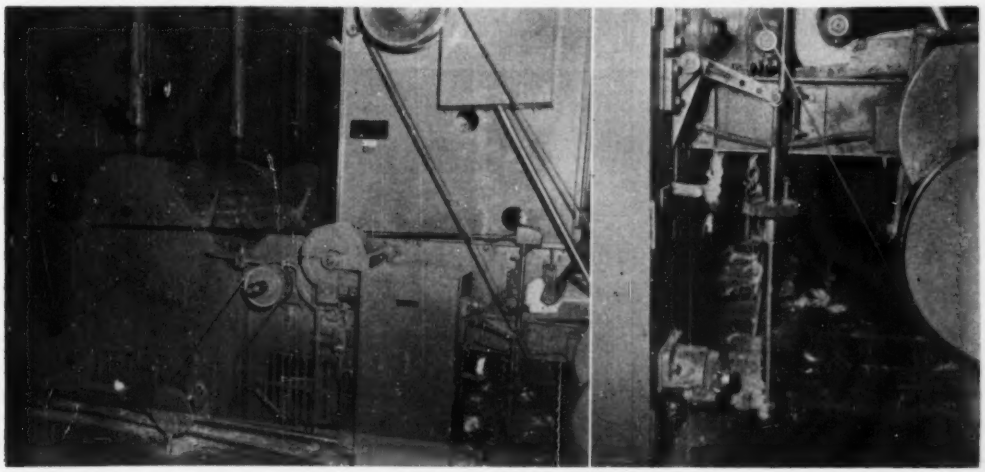
Easy—Fewer Off-Weight Laps

EXCLUSIVE

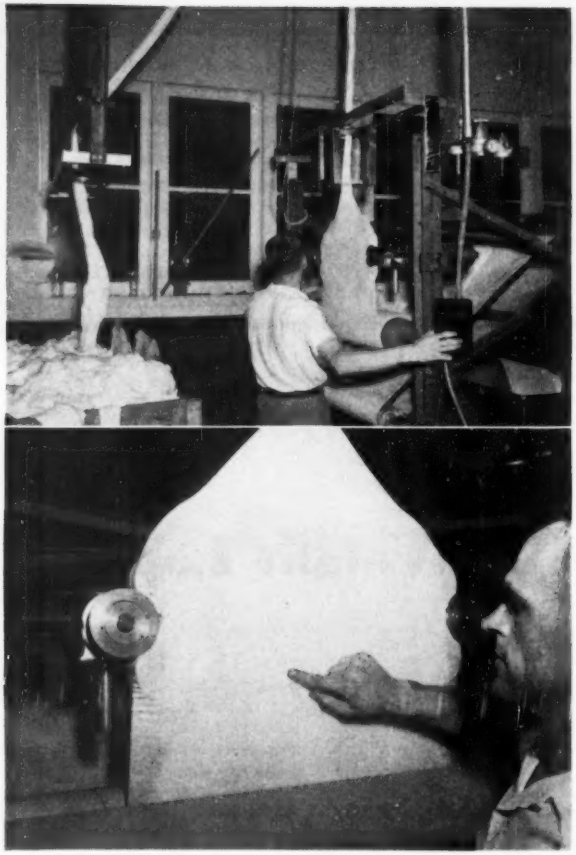
It can be easily seen that a turn of the handwheel turns the horizontal shaft which, through the bevel gears, turns the vertical shaft on which is mounted the 12-pitch gear with the three-inch face. This gear turns the geared turnbuckle mounted on the evener control shaft, and an adjustment in the evener motion is accomplished

Now, to make an adjustment, the picker doffer need not walk to the side of the picker and turn a turnbuckle. He has before him, easily accessible, a handwheel which will make the same evener motion adjustment. If he doffs an off-weight lap, it is no trouble to adjust so the next one will be on the nose.

VIEW OF EXTENSION (left) showing mounting of shafts and gearing. Detail of the gearing (right). The larger gear in front is welded over the conventional turnbuckle adjustment. The wide-face gear behind it is mounted on the vertical extension shaft. The turnbuckle gear can move up and down and still remain in mesh.



Redman

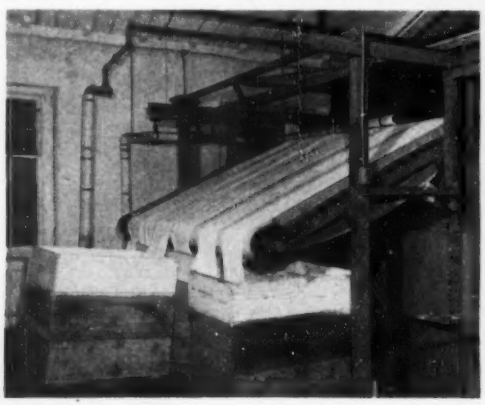


1. **NORMALIZING.** Re-orienting wet tubular knit goods by adjusting the stitch is a function of the normalizer, first step in Pottsville's Redman range. In the lower photo above Operator Frank Leguko points out how stitch is expanded at the normalizer.

HUNDREDS OF THOUSANDS of pounds of tubular knit fabrics for the armed forces and civilian needs are pouring out of the first Redman machines now in commercial operation at Munsingwear, Inc., Minneapolis, Minn.; Perry (N. Y.) Knitting Co.; Spring City (Pa.) Bleach & Dye Works; and Pottsville Bleaching and Dyeing Co., Port Carbon, Pa. Current production of dimensionally stabilized underwear culminates a decade of intensive investigation of knit goods residual shrinkage. With the Redman process, the consumer has access to a "true-size" underwear, one that will retain shape and fit after laundering of this most severely washed of all garments.

In one series of tests, the United States Bureau of Standards has determined the average shrinkage of underwear in washing machines to be from 17 to 18 per cent. Much of this shrinkage originates in conventional finishing operations where pronounced tensions and fabric distortions can be readily observed. Tension can be seen in kier or continuous type bleach

2. **BASKET DRYING.** Normalized cloth is delivered to the basket loop shrinker by an apron feed (left photo) that can accommodate six or eight strands, depending on their aggregate width. Machine is completely enclosed (right photo). Internal temperature is regulated at 250F at three stations.



Knit Goods Shrinking Range

at Pottsville Bleaching and Dyeing Co.

Complete description of a mill installation of Redman process machines. Fabric with a residual shrinkage approaching only one per cent produced.

EXCLUSIVE

Staff Prepared

processes as well as in dyeing operations on material not normally bleached.

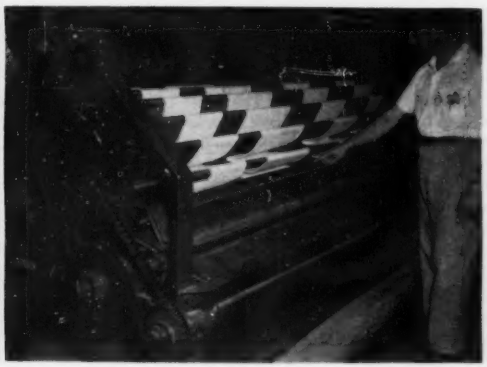
In the past, fabric was delivered and garments cut from cloth in this unnatural dimension. When this fabric was washed, it reverted to its normal dimension with an attendant decrease in length and increase in width. This resulted in a complete change in both size and shape of the garment and was extremely objectionable in undershirts and especially in one-piece union suits. The entire knit goods industry searched for a way to overcome this deficiency.

First rays of hope began at the Philadelphia Quartermaster Depot early in the '40s. It was then that Frank R. Redman, textile consultant, with the cooperation of Col. Frank M. Steadman and Major D. C. McLeod of the United States Army Quartermaster Corps, began preliminary experimentations. On May 25, 1944, at the Underwear Institute's War Conference, the results of the experiments were revealed. A committee was formed of representatives of leading knitting mills in the country to further investigate the proposed processes.

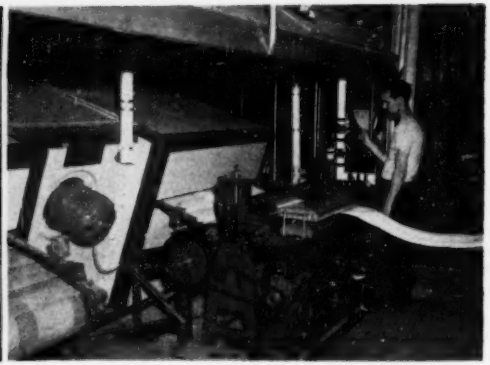
Findings of this committee led to the creation of a trusteeship by members of the Underwear Institute. The Redman Trust, as it was called, was enjoined to develop the pre-shrink process. Fifty-nine research minded underwear mills contributed in this effort. Pilot plant equipment was purchased and knitting mills provided technical assistance and fabric. Over 100,000 pounds of cotton tubular knit goods were processed until, seven years later, the small laboratory demonstrations blossomed into a full-scale commercial application.

The development division of Proctor & Schwartz, Inc., textile machinery manufacturers, working closely with the Trust, designed, tested, modified, and remodified equipment and finally delivered to Spring City Bleach & Dye Works on Nov. 3, 1949, the prototype Redman machinery. There followed more tests, more changes. Shortly thereafter, Pottsville Bleaching

STRANDS ARE LOOPED INTO BASKETS (left photo) of the shrinker's conveyor at a pre-determined rate, allowing cloth to be suspended in a relaxed condition. On delivery end of machine (right photo), as baskets collapse around the drive sprocket, a synchronized 7-bladed spider engages with the folded baskets and secures loops of fabrics. By so doing, fabric is prevented from slipping out of the baskets and descends in a tensionless condition from the shrinker through a slot to the calender equipment on the floor below.



FIRST STAGE OF THE DESCENT to the calendering equipment on the floor below is to a slatted apron belt which delivers the fabric to a batcher where it is finally deposited into hand trucks. Stretch is prevented by means of these interrupted drops.



3. TENSIONLESS CALENDERING. Cloth is calendered, overfed onto dryer belt, and delivered through dryer while fibers are in relaxed condition. Operator Jim Feeney changes floating spreader to produce fabric of finished width specified by customer.

and Dyeing Co. erected another Redman range.

The Process. The complete range at Pottsville consists of a normalizer, a basket shrinking dryer, two tensionless calenders and accompanying final dryers, and two twin-scray folding tables. The material is taken from the bleach house and is delivered at the folding tables as a finished "shrunk-to-fit" fabric with a residual shrinkage approaching only one per cent.

Calenders, final dryers, and folding tables are located in a section of the mill directly beneath that housing initial elements of the range. Total floor space occupied by all components measures 4,000 square feet. From the dyehouse, fabric is conveyed by hand trucks to the normalizer. Trucks are also used to transport normalized fabric to an inclined feed belt of the tensionless basket shrinking dryer. The dried fabric is then fed through floor slot to a truck loading batcher on the floor below in two tensionless descents. The first descent leads to a horizontal slatted apron suspended three feet below ceiling level. A batcher beneath the delivery end of the apron completes the fabric's downward journey to the waiting trucks. From this point the fabric is transported to the tensionless calenders and then belt conveyed through the ensuing drying operation directly to scrays above the folding tables.

Stretching of the fabric at every step of the treatment is scrupulously avoided through proper manual or mechanical handling. The purpose of the range is to remove all tensions originating in knitting and wet finishing processes. Imposing new tensions within the Redman range would serve only to defeat this purpose.

Job Assignments. The Pottsville range requires six operators at peak production. No. 1 tends the normalizer, changing this machine's spreader mechanism according to pre-determined specifications and information marked on the lead end of the tube by crayon. This operator also tends the basket dryer which is completely automatic, and when controls are set needs little attention. No. 2 is stationed at the batcher on the floor below. His principle duty is the transferring of loaded and unloaded trucks at the batcher.

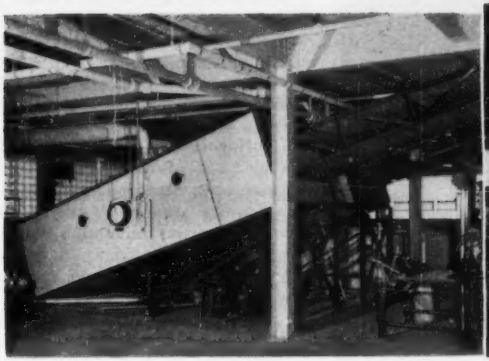
Nos. 3 and 4 make any necessary adjustments at the tensionless calenders, change spreaders according to calender width specified, and supervise functioning of the final dryers. Nos. 5 and 6 handle the final folding and packaging tasks at the two twin-scray mechanical folding tables. Nos. 4 and 6 can be dispensed with whenever production doesn't require use of the second calender.

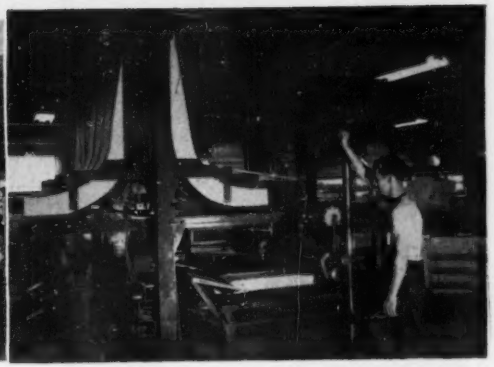
Machine Description. The normalizer is a critical step in the relaxation process, requiring constant vigilance. One strand of cloth is passed through this machine at a rate varying from 75 to 110 yards per minute, depending on the weight of the fabric. Robert Oberhaltzer, plant superintendent at Pottsville, describes normalizing as "realigning the stitch to remove all processing tensions so that the fabric has the same dimensions it had on the knitting machine."

Expander Widths Used on Normalizer

	Body Size								
Sample	**7.5**	**8.0**	**8.5**	**9.0**	**10.0**	**10.75**	**11.5**	**12.5**	**13.5**
Bleach 8/1							22		
Bleach 9/2	15	16	17	19	21	22	23	24	26
Cream 9/2—A									29
Cream 9/2—B	16	17	18	20	22	23	24	25	27
Cream 8/1									25

As this table shows, similar body sizes might call for different expander widths. Much depends upon the construction of the goods and the amount of relaxation shrinkage requested by the customer. These relationships are continuously being determined through accumulated experience with the Redman range at Pottsville Bleaching and Dyeing Company.





THE FINAL DRYER (left) is mounted on an inclined pedestal, allowing continuous belt to terminate above folding table short storage scrays. Finished, pre-shrunk tubular knit goods are flat folded on two twin-scray folding tables at Pottsville, as shown in photo at right. A gate above the scrays allows the operator to alternate folding on either side of the table, thus avoiding bottlenecks in production.

In so doing, the width of the stitch is increased while its length is decreased. The spreaders, which accomplish this reformation, are generally twice the body diameter of the fabric in process. William Poole of Proctor & Schwartz explains the phenomena this way: "Tubular knit fabric acts much the same as a pair of Lazy-Daisy tongs so that as it is extended in length, it reduces radically in width." Normalizing expands the fabric and counteracts stretch deformation.

On leaving the normalizer's press rolls, the fabric measures about equal to the original knitting machine body diameter. In this expanded state the goods are delivered to a continuous belt leading to a batcher and truck. The belt runs at slightly lower linear speed than the press rolls, thereby permitting tensionless delivery.

The batched knit goods are transported to an eight-foot wide inclined feed belt on the basket dryer. A sure grip on the fabric is afforded by the belt's rough textured surface, thereby avoiding stretch. As many as eight strands, depending on aggregate head size of the goods, can be passed side-by-side through the dryer. Dryer capacity ranges as high as 1000 pounds an hour, a rate in balance with normalizer output. Practice is to group fabrics according to near similar weights, and process the group so composed in order to exploit maximum drying speeds available.

Basket Dryer. In order to understand the stabilizing function of the dryer, certain mechanical features must be described. The dryer cabinet is 60 feet long. Internal temperature is controlled automatically at 230 F at three stations. The cloth seldom exceeds 155 F.

A continuous belt fabricated of wire mesh runs the length of the housing. The belt is constructed as a succession of loop baskets 6 inches across at the top and 10 inches deep. These baskets support short loops of fabric in transit through the dryer. Design of the basket shape is a resolvant of two factors: fabric must not stretch due to its own weight, and sufficient fabric must be within the housing at any given time so that reasonably high capacity drying may be achieved.

The feed belt speed is adjusted relative to the basket loop conveyor speed so that fabric is fed slackly into each basket, and natural basket-fitting loops are formed. Hot air is impinged from above and below the fabric to insure uniform drying. The air from below the conveyor passes through the wire mesh belt, causing flotation of the material on a cushion of air while moisture is being driven off. As a result of this gentle air-agitated suspension, the cloth becomes relaxed, the stitch is readjusted, and true-size drying ensues. The material leaves the basket dryer in an unfinished state, but it possesses practically no shrinkage.

Calendering. The final finishing operation takes place at a tensionless calender and drying range where the cloth is steamed to set the true-size and finished in a flat fold condition. Two tensionless calenders and two final dryers, each having a capacity of 400 to 500 pounds an hour, balance production from the basket dryer.

The two drying units are independent. A Diehl 1½ hp, three-phase, 60-cycle motor powers each blower while one Diehl 1 hp, three-phase, 60-cycle motor drives each dryer belt and calender through Reeves speed control units.

After calendering, the cloth is overfed onto a wire mesh endless belt running through a 20-foot long drying cabinet inclined at 30° pitch. The belt continues 15 feet beyond the dryer exit, terminating above the twin-scrays at the folding tables. Drying temperature within the cabinet is automatically regulated at 230 F. Hot air is directed through the mesh belt with sufficient velocity to agitate the fabric and dry it in a relaxed, calendered state. The calender and dryer will accommodate two strands of fabric up to a combined width of 48 inches.

The folding table operator can transfer cloth from the belt to either scray by an automatic gate control, thereby preventing a bottleneck when one side of the table is being utilized for wrapping and handling a full cloth stack. Folding speed is synchronized with the rate of cloth delivery from the dryer by

MEASURING REDMANIZED SAMPLES for residual shrinkage after laundering, is Harold Rahmer. Thirty-inch long specimens are carefully laid out on a drying screen and air dried. If the sample has shrunk beyond allowable limits, the piece is reprocessed with new settings at the normalizer and calender.

means of a Reeves speed control unit powered by a Diehl ½ hp, three-phase, 60-cycle motor. There are four such units for the two twin-scray folding tables.

To date, operations at Pottsville are proceeding without complications. Motors, stationary machine parts, belts, rolls, bearings, and instruments require only routine maintenance. Lubrication practices are standard. No difficulty has been experienced in the instruction of personnel in operation and maintenance procedures.

Materials Processed. Excellent shrinkage characteristics have been shown by materials processed over this complete range, a tabulation of which is shown below:

Material	Per cent Shrinkage Length	Width
1 x 1 knit	2.33	4.83
Flat knit	1.0	5.0
Interlock	2.0	4.1
Swiss rib	1.83	4.5
50% wool, 50% cotton*	3.1	1.8

*The 50% wool, 50% cotton samples were washed in accordance with QMC specifications MIL-D-10212. This incorporates tumble drying and material was chemically treated for anti felting. Results are relaxation shrinkage. Tumble drying usually increases the shrinkage taking place by about 5% over other methods of drying. Fabrics passing through tumble drying with low residual shrinkage can be said to be thoroughly stabilized.

Whenever 25% or more of wool is incorporated into the fabric, some chemical stabilization to prevent felting shrinkage is necessary. In rayon and cotton unions, cotton characteristics will have the dominant effect if rayon content is less than 25%.

Redmanizing Dry Fabric. The Redman principles have been applied to handling dry fabric over the normalizer. This method is essential with napped fabric and also produces excellent results with all types of tubular knit material.

Mills that have up-to-date drying equipment are interested in the progress made with this method of processing. With this arrangement for handling fabric, a mill can produce Redmanized fabric by the addition of a normalizing unit between their present loop dryer and conventional calendering and folding device. One normalizer will have a production up to 1,000 pounds per hour.

Fabrics processed through a conventional loop dryer, normalizer for dry fabric, and calender are well within the shrinkage limits set for the use of the "Redmanized" trademark. It has been found that tubular knit fabric processed by this simplified unit will have not over 1% to 2% more shrinkage in length than the same material processed over the entire range.

An important feature is that napped fabrics, both flat and ribbed, which have been treated by the alternate process have shown shrinkage results in the order of 2% to 4% in length and 5% to 7% in width—highly favorable on such fabrics.

Influence on Knitting. Shrink gained in Pottsville's Redman range is in conformance with the customer's orders. If the knitter prefers partial relaxation shrinkage, this can be done. A typical handling of a customer's order would be:

A sample is run through the range with tentative spreader widths specified for normalizing and calendering. The pre-shrunk goods are then laundered and examined for dimensional changes. If desired shrink is not obtained, other samples are run through until shrink results are satisfactory.

For example, if a garment was knitted on a 16″ dia. cylinder, it might enter the normalizer spread at an arbitrary 29″, and exit from this machine at 16″. After basket drying, the fabric might measure 14″, while after calendering and finishing the final width might be 14½″. If the length shrinkage is excessive after laundering, the fabric could be normalized at 32″, placing more of the length shrinkage into width.

At this point, however, it could be profitable for the knitter to realign his knitting facilities in order to compensate for changes in fabric weight induced by Redmanizing. When a knitter is shooting for four pounds to the dozen and as a result of pre-shrinking he finds that his dozen weighs five pounds, he may elect to cut down yarn weight, open the stitch, or knit on a different head size. Customarily, a knitter using Pottsville's range will send in a new sample if the previously Redmanized one exhibited a length shrinkage of more than 5% after laundering.

John L. Miller, manager of Pottsville Bleaching and Dyeing, says that customers are flocking in and more will come as soon as they adjust their knitting plant.

By any degree of reason, realignment of a knitting mill can't be considered not worth the effort to achieve dimensional stability. It means dollars in the knitter's pocket.

Some underwear manufacturers make a normal practice of scaling patterns to take into account shape changes. Some make the garment extra long in order to allow for eventual laundering shrinkage. Cutting Redmanized fabric to true-size will save these underwear producers untold yardages. And at the same time, they can merchandise a permanently form-fitting garment.

The use of fabrics with a definite predetermined shrinkage factor will give the manufacturer more positive control of his costs and facilitate the manufacturing procedures entering into "true-sizing" of his product.

Military Specification MIL-U-10211 for control of relaxation shrinkage in wool and cotton tubular knit fabrics is tough. And so is MIL-S-3257 covering tubular knit wool with jersey stitch. Each incorporates tumble drying. Redman machinery is enabling mills to meet these specifications.

Licensing. Today, the Redman machinery is covered with five issued patents and five patent applications pending. The Redman Trust has dissolved and all interests have been transferred to Mr. Redman. Use of these processes is open to any concern obtaining a license on a royalty basis. Licenses provide for mills doing their own finishing, mills using facilities of an outside finisher, and mills purchasing fabric.

In case of firms using facilities of an outside bleachery, the bleachery must have a license as well as concerns feeding from it. In some instances, the bleachery has purchased the equipment, while in other instances mills have grouped together to purchase the machine which will be installed in a mutually agreeable bleachery. In short, license agreements can be drawn up so as to make it possible for all mills to use the process, regardless of their finishing facilities.

The licensee is permitted to use a Redmanize trade-mark provided garments have been shrunk under supervision and according to standards and specifications of the licensor. Such standards are being established from time to time, 30 days notice being given.

One of the first companies to take out a Redman license was Munsingwear, Inc. Roy C. Humphrey, president, endorsed the process fully, stating, "The Redman process is in line with the fundamental policy of giving the American consumer the greatest satisfaction in comfort and appearance throughout the life of the garments we produce. . . . It eliminates the only drawback that has existed in the further development and expansion of the use of knitted fabric."

New Textile Courses at Clemson

As a part of its plan to keep abreast of the rapidly expanding textile industry in the South, Clemson (S.C.) College added two new courses to its textile curriculum this fall: (1) Rayon Throwing and Warp Preparation and (2) Woolen and Worsted Yarn Manufacturing.

It is contemplated that a Master's degree in Textile Technology will soon be offered.

Marhen Method for Controlled Vat Dyeing

A new method which makes possible continuous scientific control of the application of high quality vat dyes has been announced. Known as the Marhen process, it provides an electronic control for the reduction potentials which govern the dyeing efficiency of the vat dyebath.

D. E. Marnon and J. H. Hennessey of the General Dyestuff Corporation are inventors of the process which is another joint research venture of the technical staffs of General Dyestuff and General Aniline and Film Corporation.

Previous methods measured the amount of chemicals in a bath, the announcement states, but did not measure the reduction potential. With the Marhen process such measurements are now available, and the continuous control of a vat dye bath is possible. The dyer can readily measure and control the ability of a particular bath to do a specific job.

The Marhen method measures the reducing power in terms of electrons by utilizing suitable electrodes and measuring equipment. This reducing power is a function of chemicals and temperature; therefore, proper control of the bath may be exerted by manipulation of these variables. With proper consideration of the depth of shade to be used, the dyer may now prepare and maintain an efficient, economical dye bath, according to the announcement.

Benefits claimed for the new process are:

1. Uniformity and constant shade in high quality dyeing.
2. Elimination of any doubt as to the end results in the many and varied vat dye applications.
3. Savings in chemicals—sodium hydrosulfite and caustic soda.
4. A better dye job is done in less time.
5. Dyeings of difficult constructions are now possible.
6. In the dyeing of certain shades, the new method revealed oxidation stains were due to an insufficient amount of sodium hydrosulfite.

MILL MEN PARTICIPATED in the open forum discussion of mill operating practices, and in many instances several representatives from each mill took part in the meeting. Portable hand microphones were used to enable everyone in the auditorium to hear each man's comments on the technical questions which were presented.

Georgia Mill Slashing and

Topics Discussed:

Homogenized Size
Use of Two Size Boxes
Synthetic Slasher Rolls
Section Beam Run-Outs
Moisture Controls
Starch Handling
Multi-Motor Slasher Drives
Loom Lubrication
Ceiling Cleaning in Weaving
Handling Battery Waste
Pneumatic Squeeze Rolls
Cage Type Immersion Rolls
Selvage Stretch Control
Loop Selvages
Pulled-In Selvages on Duck
Feeler Tips for Synthetics
Shuttle Maintenance
Quill Breakage
Loom Maintenance Records
Weave Room Humidity
Cloth Guides

MILL men from all parts of Georgia, and many from other states, gathered in the auditorium of the Harrison Hightower textile building at Georgia Tech, Atlanta, Ga., October 13, to discuss practical slashing and weaving techniques.

R. H. Jewell, vice-president, Crystal Springs Bleachery, Chickamauga, Ga., was guest speaker; he described an interesting visit to several British mills.

T. M. Hampton, superintendent, Hillside Plant, Callaway Mills Co., LaGrange, Ga., conducted the discussion on weaving practices. The forum on slashing was held last, and Albert Johnson, West Point Mfg. Co., officiated during this portion of the meeting.

Homogenized Size. Five mills reported preheating or cooking the size mix before running it through the homogenizer. In one instance a cold slurry was used. Homogenizing the size does not affect the uniformity of viscosity, according to two answers to the question. Three answers indicated that viscosity of homogenized size was more uniform than regular cooked size; however only one mill had conducted tests to verify the opinion. Tests in one mill revealed that there is less tendency for variation in the uniformity of homogenized size because it is cooked as needed, and there is no evaporation or dilution in that the size is not stored for any appreciable time.

Opinions were evenly divided regarding any difference in size pick up in comparing homogenized and cooked size. A drop from 12.5% to 11.5% size pick up was noted in one instance; whereas an increase of 1 to 2% was noted in another. No significant difference was evi-

PRESIDING during the forum on slashing was **Albert Johnson,** assistant superintendent of West Point Manufacturing Company's Lanett Mill. Seated, left to right, **T. R. Scott,** Martha Mills; **R. J. McCamy,** Pepperell Mfg. Co., Lindale, Ga.; and **H. M. Jackson,** Fulton Bag & Cotton Mills. Several weeks prior to the meeting 23 questions on slashing and weaving practices were sent to Georgia mills for written answers. Twenty-two mills and mill groups, operating 1,393,782 spindles, responded. This report contains representative answers, both oral and written.

GUEST SPEAKER, vice-president of Crystal Springs Bleachery, Chickamauga, Ga., **R. H. Jewell** related details of several interesting visits to British textile mills.

NEW OFFICERS ELECTED

Robert J. McCamy, superintendent, Pepperell Mfg. Co., Lindale, Ga., general chairman, succeeding **H. M. Jackson.**

T. M. Hampton, superintendent, Hillside Plant, Callaway Mills Co., LaGrange, Ga., vice-general chairman, succeeding **R. J. McCamy.**

Prentiss E. Findley, Jr., general superintendent, Bibb Mfg. Co., Macon, Ga., executive committee, succeeding **Z. B. Mangum.**

George McMillan, Crystal Springs Bleachery, Chickamauga, Ga., executive committee, succeeding **E. S. Summer.**

R. W. Lawson, superintendent, Chicopee Mfg. Co., Gainesville, Ga., executive committee, succeeding **T. M. Hampton.**

Weaving Practices

Staff Report

dent in weave room efficiency upon comparing homogenized size to cooked size on the warps.

Use of Two Size Boxes. The second question on slashing was as follows: In running two size boxes, do you have any difference in size pick-up between the two boxes? If so, what have you done to correct it? How do you determine the difference in size pick-up?

One mill found that on heavy sets approximately 2% more size was left on yarn leaving the box next to the cylinder than on the yarn leaving the other size box. The condition was attributed to yarn next to cylinder drying first and "stealing" size. Correction was made by running part of the yarn around one cylinder, part around another cylinder, and bringing the two together on a third cylinder.

A standard acid-alkali desize procedure was used to determine the difference in size pick-up. First, determine the amount of natural oils and waxes in the unsized cotton; determine the oven dry weight of the test sample; desize the sample, and calculate weight loss based on dry weight of samples. Then subtract the amount of natural oils and waxes as previously determined to find net weight and then calculate size pick-up.

Synthetic Slasher Rolls. Seven mills reporting experience with synthetic front squeeze rolls on slashers indicated that results were not satisfactory in that the rolls did not dress the yarn properly, leaving too much size on the surface of the yarn. Twelve reports revealed good results from synthetic back rolls. No one had unsatisfactory experience with synthetic back rolls. Only two mills used synthetic take-up or calender rolls; however good results were evident in these two mills. The consensus indicated that no difference was noted in size pick-up and stretch upon changing to synthetic rolls. One mill claimed .5% more size pick-up and no difference in stretch when using synthetic rolls.

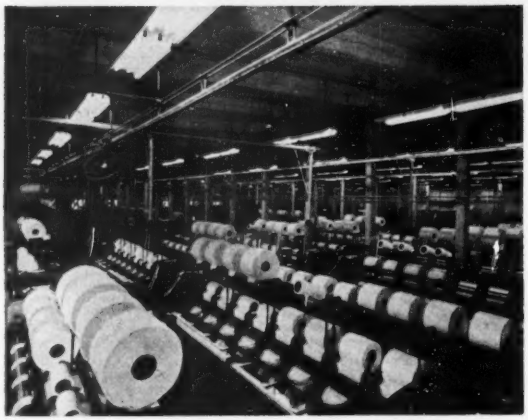
Beam Run-Outs in Slashing. In controlling section beam run-out at the slasher, one reported using a positively driven beam creel to obtain satisfactory control. The most common method used to control section beam run-out employ-

RESULTS are what count!

Read These Reports By Mill Officials On

Automatic OVERHEAD CLEANING

Taken From Textile Papers



"The cleaner has brought about better working conditions and fewer safety hazards and has been responsible for improved quality production."

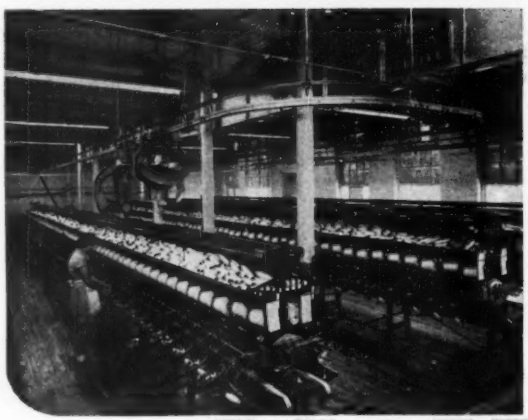
"Ceiling cleaner has enabled us to eliminate one card hand from each shift."

"The best investment we have ever made . . . paid for itself in two years. . ."

"Eliminates a great deal of waste and the mill has practically no trouble with pull-backs."

"We think we have cut our gouts about 50%. I might say that at the same time we put in the overhead cleaning, we stopped using compressed air on the spindles and idler pulleys."

"All I have to say is that if you do not have them and have never seen them, you had better get out and learn about them, because they are really fine things."



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ed control of yardage put on beams at the warper and proper regulation of tension on the section beams in the creel. The standard difference in yardage allowed on section beams ranged from .1% to .5%. Waste at the creel end of the slasher ranged from .1% to .6%, and waste at the front end of the slasher varied from .08% to .7% among the mills reporting.

Electronic Moisture Controls. Advantages listed for electronic moisture controls on slashers were: accurate moisture control in warp; increased slasher production; increased weaving production and efficiency. One experience revealed some difficulty in trying to keep the controls in good operating condition. In this instance, not withstanding maintenance problems, results were good.

Only one disadvantage was claimed for the electronic controls. Although excellent results were obtained, in one plant on light weight goods it was necessary to reduce the steam pressure to prevent the slasher from having to be run too fast.

Starch Handling. Mechanical equipment for handling bulk starch in one mill was described during the meeting. (See "Size Cooking Simplified with Starch Handling Equipment," page 105, TEXTILE INDUSTRIES, August, 1950; also "Starch Handling at Pineville," page 179, TEXTILE INDUSTRIES, February, 1951.)

Multi-Motor Slasher Drives. Performance reports on multi-motor slasher drives were unanimously favorable. Nine mills using the drives revealed increases of from 5% to 10% in slasher efficiency, more uniform loom beams, from 7% to 20% more yarn on loom beams, and better quality warps throughout. Cost of the multi-motor drives was justified by lower cost of slashing, improved weaving efficiency, less maintenance, and less waste.

Size Formula for 14s Yarn. Three size formulas were suggested for 14s yarn for use in 62 x 60 tubing to minimize chafing and balling. The formulas were as follows:

(1) Use 200 lb of pearl starch and 16 lb of compound to finish 205 gallons of size. Homogenize the size at 1400 lb pressure.

(2) Use 140 lb of thin-boiling starch, 15 lb of combination softener and binder, and 92.5 gallons of water to finish 135 gallons of size.

(3) Use 16 ounces of pearl starch per finished gallon. Add 7½% emulsified tallow (50% fat) on the weight of the starch. Add antifoam if needed. Heat to 205 F and homogenize at 2000 psi.

Pneumatic Slasher Squeeze Rolls. According to one report, pneumatic slasher squeeze rolls were employed on a 72-inch slasher with good results. Commenting at the meeting, a mill man stated that size pick-up was controlled by varying the pressure on the squeeze rolls, and the same size formula was used on all counts except 6s. No trouble was encountered in operation and cylinder pressures were the same on both sides of the slasher.

Cage Type Immersion Rolls. Opinions were evenly divided on the merits of cage type immersion rolls in the size box. The advantages claimed were: more agitation, fewer lay-ins, more size pick-up, and more penetration. The disadvantages claimed were: causes lumpy size, difficult to wash off, roll kept coming apart, causes yarn laps, and was detrimental to quality.

ELECTED to serve as vice-general chairman of the Textile Operating Executives of Georgia, was **T. M. Hampton,** superintendent, Hillside Plant, Callaway Mills, Co., La Grange, Ga., who conducted the weaving session.

Selvage Stretch Control. In slashing 88-inch loom beams from 54-inch section beams, the additional spread of 34 inches does not stretch the selvage yarns appreciably more than the body, according to experience in four out of seven mills. Loose selvages were reported in one instance, one mill reported stretched selvages due to increased tension applied on the outside ends, and another mill advocated moving the lease rod section farther away from the front cylinder to reduce the angle at which the yarn approaches the wide loom beam.

Loom Lubrication. 19 mills sub-

Quill Breakage in Nine Georgia Mills

Mill No.	Quill Breakage per Loom per Week	Loom Width (in.)	Loom Speed (ppm)
D	.14	22-64	135-185
I	.7	40-42	172-186
J	.75	38	168
K	.08	40	160
L	.182	38	148
N	.45	40	197
Q	.25	--	130
S	1.5	36-44	160-182
U	2.0	40	192
	2.0	48	172
	.5	60	125

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Typical Low Cost Slimline Lighting Installation — in twister and winder room of Robinson Mills, Inc., Dallas, North Carolina.

Installations Pay for Themselves in a Short Time
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Operate at Lower Temperatures

Lithonia's twin 8 ft. channel lighting operating as one 16 ft. unit, using one two lamp ballast, provides even all directional lighting with no reflected light shadows. Guaranteed rust proofing for high humidity conditions. Tubes replaced without turning—you merely slip tube into spring loaded sockets. Our lighting engineers at your disposal at no cost or obligation.

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Lithonia, Georgia

Lubricating Schedule For 44" X-2 Looms

	No. Parts	Day Oiled	Operator
Motor pinion	1	Monday	Oiler
Head gears	1	Monday	Oiler
Pick cams	2	Monday	Oiler
Filling cams	2	Monday	Oiler
Harness cams and treadle	8	Monday	Oiler
Whip roll vibrator cam	1	Monday	Oiler
Clutch shipper stud	1	Tuesday	Oiler
Starting rods	6	Tuesday	Oiler
Filling fork slide	1	Tuesday	Oiler
Shipper lever (front)	1	Tuesday	Oiler
Shuttle boxes	4	Tuesday	Oiler
Brake release lever	1	Tuesday	Oiler
Temples	5	Wednesday	Oiler
Battery parts	11	Wednesday	Oiler
Midget feeler	3	Wednesday	Oiler
Lay guide	1	Wednesday	Oiler
Shuttle feeler	1	Wednesday	Oiler
Whip rolls	2	Thursday	Oiler
Let-off parts	6	Thursday	Oiler
Let-off rod link	1	Thursday	Oiler
Beam gear shaft and lever shaft	2	Thursday	Oiler
Beam bearings	2	Thursday	Oiler
Back shipper lever	1	Thursday	Oiler
Harness rolls	4	Friday	Oiler
Picker feet, parallel stand	4	Friday	Oiler
Friction collar	1	Friday	Oiler
Filling cam follower	1	Friday	Oiler
Brake shoe	2	Friday	Oiler
Shipper lever arm	1	Saturday	Oiler
Take up gears	1	Saturday	Oiler
Take up clutch	1	Saturday	Oiler
Cloth roll crank	1	Saturday	Oiler
Train gears to sand roll	4	Saturday	Oiler
Sand roll	2	Saturday	Oiler
Brake release parts	1	Saturday	Oiler
Sand roll gears	1	Saturday	Oiler
Pick clock	1	Once/3 Weeks	Fixer
Thread cutter	1	As Needed	Fixer
Selvage harness levers	6	At Warp Out	Blow-off Man
Pick clock shaft bracket	1	At Warp Out	Blow-off Man

WITH GREASE GUN	No. Fittings	Frequency	Operator
Crank shaft	5	Once/Week	Grease Man**
Friction clutch	4	Once/Week	Grease Man**
Pick balls	2	Once/Week	Grease Man**
Crank arms	4	Once/Week	Grease Man**
Cam shaft bearing	2	Once/Week	Grease Man**
Take up shaft (back bearing)	1	Once/Week	Grease Man**
Take up shaft (front bearing)	1	Once/Week	Grease Man**
Take up shaft (on front of loom)	1	Once/Week	Grease Man**
Pick shaft front bearing	2	Once/Week	Grease Man**
Pick shaft back bearing	2	Once/Week	Grease Man**
Protector rod bearings	2	Once/Week	Grease Man**
Sand roll bearings	2	Once/Week	Grease Man**
Rocker shaft bearings	2	Once/Week	Grease Man**
Hub springs	2	Once/Week	Grease Man**
Shipper stud and link	2	Once/Week	Grease Man**
*Aux. shaft	2	At Warp Out	Blow-off Man
*Aux. shaft intermediate gear shaft	1	At Warp Out	Blow-off Man
Let-off mechanism	2	Once/6 Days	Grease Man
Warp beam gear shaft	1	Once/6 Days	Grease Man
Int. gear shaft (to sand roll)	1	Once/6 Days	Grease Man
Back take up gear housing	1	Once/6 Days	Grease Man
Shipper lever end	1	Once/6 Days	Grease Man
Battery shaft	1	Once/6 Days	Grease Man
Other gears in sand roll train	2	Once/6 Days	Grease Man
Filling stop motion	2	Once/6 Days	Grease Man
Cam shaft bearing (center)	2	Once/6 Days	Grease Man
*Protector rod bearing (center)	1	At Warp Out	Blow-off Man
WITH BRUSH			
*Selvage harness cams	2	At Warp Out	Blow-off Man
*Aux. gear teeth	3	At Warp Out	Blow-off Man
All other cams and gear teeth	11	Once/6 Days	Grease Man

*Unable to lubricate when warp is in.

**For looms with loom beam running time of less than 1½ weeks, all greasing is done by blow-off man.

mitted information regarding procedures and personnel engaged in lubricating looms. 15 of those reporting employed regular oilers to attend to loom lubrication, two instructed loom fixers to oil looms, and two mills employed regular oilers in addition to having the loom fixer lubricate some parts of the loom, especially when the warps were changed. 17 answers revealed that picks were used to clean oil holes, and two answers did not cover this part of the question.

A lubrication schedule for 44-inch X-2 looms, as employed by one mill, is shown in the accompanying box.

Ceiling Cleaning in Weave Room. Schedules for overhead cleaning in the weave room ranged from once in 24 hours to once every two weeks. A majority of those reporting employed compressed air and a cover for the looms while performing the cleaning operation. In a few instances long-handle brooms and mops were used also. Relative humidity maintained in the weave rooms varied from 70 to 90 per cent; however a majority of mills maintain 80 to 85 per cent relative humidity. 12 mills reported using an air change system in the weave room, six did not have air change equipment, and two plants employed large exhaust fans to change the air.

Handling Battery Head Waste. The operator who takes up quills, removes waste from the can and quills before returning quills to the quill stripper, according to a majority of answers to the question regarding battery and finger waste.

Loop Selvages. Only one mill reported satisfactory results using synthetic material instead of wire in making loop selvages. Nylon was used on light fabrics; however it was necessary to use wire on heavy fabrics. Others making loop

selvages employed stationary wires ranging in size from .016 to .026, and life of the wire varied from 4 to 8 hours with one exception. One report indicated that life of the wire was 320 hours.

Pulled-In Selvages on Duck. The best way to prevent pulled-in selvages on duck is to relieve tension on the filling as much as possible, maintain correct tension on warp, and set timing of looms so the pick will be beat up as close to the open shed as possible. Setting should be made when the harness is level and the reed is approximately 1½ in. from the fell of the cloth. The suggestions applied to many different fabric constructions and types of looms.

One mill reported using an arrangement whereby a piece of dobby harness wire 12-15 in. long was bent in the shape of an L and fastened to the loom side next to the selvage yarn. A spring about four inches long was fastened to one end of the wire, and the selvage ends were placed in the loop on the spring. The selvage ends were kept tighter than the warp, and the spring compensates for differences in filling tension, thereby helping to prevent pulled-in selvages.

Feeler Tips for Synthetic Yarns. On rayon filament and spun synthetic yarns, a midget feeler with spring tip was used in one instance; a smooth plastic tip in another; and nylon and fabricated tips in a third mill.

Shuttle Maintenance. Loom fixers install shuttles and with few exceptions are held responsible for inspecting and maintaining shuttles. In some instances foremen, second hands, overseers, and supervisors were placed in charge of shuttle inspection. Only one plant reported employing a man to attend to fixing shuttles, and he was held responsible for installing bristles in the shuttles only part of the time; the remainder of his time was spent securing loom parts for the loom change crew to expedite style changeover. Shuttle inspection schedules ranged from twice weekly to once a month. A majority of those reporting had a weekly schedule for checking shuttles. A form used by one mill in a program of shuttle maintenance is shown in the accompanying illustration.

HAT WINNERS!

Registration cards of those attending the meeting were placed in a container, and four names were drawn at random to determine the winners of four new hats. The following men won hats: **Milton Thompson,** Martha Mills, Silvertown, Ga.; **James C. Clark,** Exposition Cotton Mills, Atlanta, Go.; **Cecil D. Welborn,** student at Ga. Tech; **U. S. Scruggs,** Cone Mills Corp., Alabama City, Ala.

Loom Maintenance Records. Keeping records of supply and repair parts for looms did not help reduce loom upkeep costs in the only mill reporting such a system in operation. Five mills checked each fixer's section to compare supply and repair costs, and two kept no records of maintenance costs. Three plants reported keeping records on shuttles used by looms, and two of these claimed the records helped reduce shuttle costs.

Tying-In Machine Maintenance. Several representative answers to a question regarding maintenance methods for portable and stationary tying-in machines are as follows:

Mill C. One man looks after the maintenance of portable and stationary tying-in machines. He makes all the necessary repairs and sees that the machines are kept in good condition at all times. The machines are checked at the end of each shift, and they are cleaned and oiled at the end of each shift. Each week-end the machines are taken apart, and the knotter and other moving parts

Report For Shuttle Maintenance

A new shuttle was put in

Loom..... on....., 19.....

I have checked the following:

1. Shuttle is boxed correctly .....
2. Loom is properly lined. .....
3. Protector rods and bearings are not worn badly and they have no play or backlash. .....
4. Protector rod fingers are set correctly against binders and daggers clear frogs the proper amount. .....
5. Frog rubber is in good condition and dagger stop is set correctly. .....
6. Shuttle feeler set correctly. .....
7. Loom is changing filling correctly and change parts are not badly worn. .....
8. Pickers are parallel and in good shape. .....
9. Binders and box leather are in good condition. .....
10. Rocker shaft bearings and bushings are not worn. .....
11. Pitman arms are in good shape and eccentric pins are tight. .....
12. Loom picks correctly and stroke on pickers is correct; heel springs are good. .....
13. Shuttle is not cut anywhere. .....

Fixer.....

Date.....Checked by.....

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provide the answer to the demand for
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Albert Spalding is recognized as the greatest violinist that America has produced. In 1920 he was soloist with the New York Symphony Society in that orchestra's first European tour. He has played with leading orchestras of both continents.

BUT how does he compare with Spalding? . . . In everything we do, we make comparisons . . . In Full-Fashioned Knitting, the one standard for comparison is the 30-section "Reading" Machine with a production of 14 to 16 dozen pairs of superior quality stockings in 8 hours. 51-gauge, 60-gauge.

TEXTILE MACHINE WORKS • READING, PENNA.

are checked. The machines are wiped off, fresh oil is applied to all moving parts, and the machines are assembled and made ready for operation.

Mill F. One man does all repair work on tying-in machines. Each machine is cleaned thoroughly once a week. Each operator is required to blow off and oil his machine at the end of each shift.

Mill G. Our tying-in machines are oiled twice in every eight hours and cleaned once per shift. Fixing is done by one of our best operators.

Mill J. Warps are checked by smash men to verify any complaint of faulty tying. A qualified man is available on all shifts for repair operations. Each operator is qualified to oil and clean the machine he operates. The machines are taken apart and cleaned thoroughly each 240 hours of plant operation.

Weave Room Humidity. A question on humidity control in the weave room was stated as follows: What have you done in studying uniformity of humidity in the weave room? When the humidity is uniform, is it possible to operate at a lower percentage with less cleaning, less rust, more comfort, and improved efficiency? How much can the relative humidity be reduced without affecting operations adversely?

Mill M. We have done considerable checking on humidity to obtain more uniformity. We installed central station air changing and atomizers, but we have trouble in obtaining uniform conditions based on checks made ten to twelve feet apart, although readings at control boxes may indicate uniform conditions. Two difficulties have been encountered: (1) obtaining an instrument which is both sensitive to change and easy to keep clean; (2) finding representative stations for control box locations.

Mill Q. Our work on humidity began in the slasher room. We found that if 7½ per cent moisture can be kept in the warps after slashing, the relative humidity can be reduced without ill effects. We have reduced relative humidity from 88 per cent to 80 per cent; however all of our cloth is finished, and we do not have the problem of weight due to moisture content. Since we reduced the relative humidity and obtained the same efficiency, we found that the moisture left in the warp is of major importance in the weave room in that the warps which were dry required more humidity and did not run as well as those which had the correct moisture content when they came to the weave room. The lower humidity does permit better cleaning and permits a more comfortable room in which to work.

OPERATING EXECUTIVES from Georgia and several other states attended the meeting to discuss the merits of different procedures in plants producting a variety of cotton and synthetic textiles.

Cloth Guides. Eleven mills reporting experience with cloth guides expressed unanimous preference for air-operated guides. Advantages claimed were: excellent control, accuracy, simplicity, and minimum maintenance.

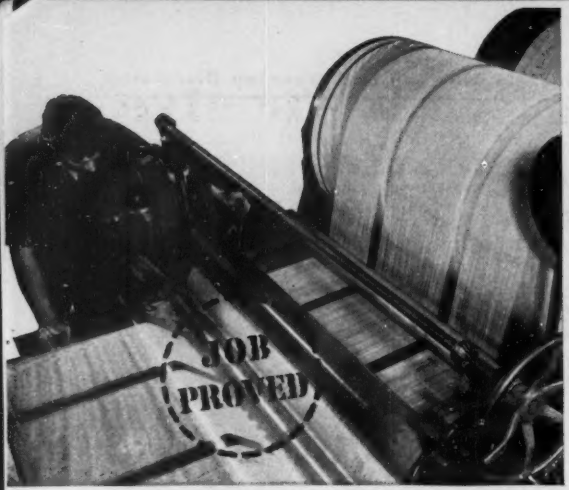
Open House at United Rayon

Overseers and department heads explained textile machines and operations to visitors at open house Monday, November 19, 1951, from 7 P.M. to 10 P.M., at United Rayon Mills, Elberton, Ga. Light refreshments were served, and samples of fancy and decorative fabrics and yarns were displayed to show some of the mill's products to visitors from the community.

Formerly students were taken on tours through the plant, and much interest in the mill and its operations had been evident. The open house was scheduled as a good public relations gesture to the surrounding community. Off-duty employees brought in many guests who displayed considerable interest. A booklet was printed for the occasion to tell something about the mill history and activity.

In the early part of 1941 the Seaboard Silk Mill became known as the United Rayon Mills, Elberton Division, United Merchants and Manufacturers, Inc. New equipment was moved in, and since 1941 the mill has grown to include twice the floor space of the old silk mill. Today, United Rayon Mills is one of the largest and most modern mills of its kind.

***AN INDEX OF ARTICLES** appearing in "Textile Industries" during 1951 is included as a supplement to this issue. May we suggest that you retain your copy for future use in locating needed data.*

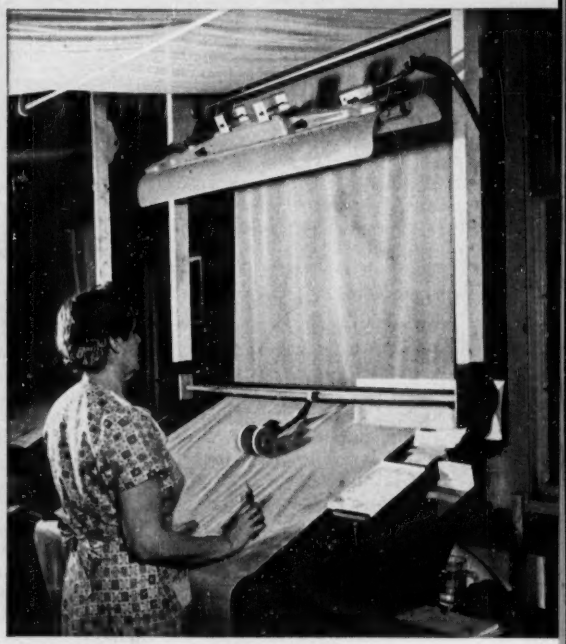


SUNOTEX SLASHES SIZING COSTS

SIX YEARS AGO a New Hampshire mill used an emulsifiable oil, a penetrant, and a preservative in the softener for sizing viscose and acetate warps on Johnson slashers. The three size components were expensive, and either had to be dissolved separately or heated before mixing. Moreover, uniformity of the sized warp could not be counted on. A Sun representative suggested all three oils be replaced with "Job Proved" Sunotex RSO-48. Result: an immediate 25 percent reduction in formula costs alone, *plus* new ease in mixing and dependable sizing.

CURRENT PRODUCTION is marquisette for curtains, taffeta for women's wear. Fortisan and Nylon warps, too, have been sized with Sunotex RSO-48—with equally good results.

SUNOTEX RSO-48 SPEEDS WEAVING by protecting ends from breakage by shuttles and preventing build-up of static electricity. It boosts quality by reducing "snowballing" of filaments.



THE MILL CREDITS SUNOTEX RSO-48 for much of its reputation for product quality. In finishing, it scours readily and uniformly from fabric, gives even dyeing—makes production better right down the line.

Sun has the right "Job Proved" textile-process aid for every material, every operation.
For the help of a Sun technical representative, call or write the nearest Sun Office.

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Profits from Effective Textile Machinery Lubrication

Article 5 Spinning and Twisting*

By F. S. JONES
Lubricating Department
Socony-Vacuum Oil Company, Inc.

EXCLUSIVE

IN A COTTON mill, the spinning room uses nearly 50% of the power consumed by the entire mill. This is more than the power used in any other department. This discussion deals with the lubrication practice that has done much to increase profits by reducing friction, wear, and power consumption in the ring spinning frames.

ring spindles

The spindles of ring spinning frames are heavily loaded, and turn at high speed. The speed must be kept uniform, and the spindles must operate without wobble if the yarn is to receive a uniform twist. Since up to 50% of the power used by the frames is consumed by these spindles, they offer the greatest opportunity for reducing friction, saving power, and increasing profits by proper lubrication. As pointed out, other savings possible with correct lubrication practice include less wear, low maintenance, reduced spindle wobble, fewer ends down, and greater production.

Bath-oiled spindles with plain or ball or roller bearing guides with plain bolsters and steps, are lubricated with a high quality spindle oil, having the following special characteristics:

(a) **Viscosity low enough** to give the least fluid friction and lowest power requirement.

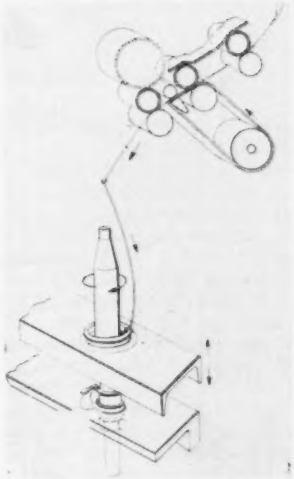
(b) **Film strength high enough** to protect against film rupture, metallic friction, and rapid wear.

(c) **Physical stability** to resist evaporation and thickening in service.

(d) **Chemical stability** to resist oxidation and the formation of gummy deposits.

Filling periods should be often enough to assure good protection for the spindles. It may be desirable to add makeup every 80 hours. Since the oil can become contaminated over a period of time, it is advisable to clean the spindles at intervals of six months to a year, depending on the production schedule. They should then be filled with new oil.

Spindles with two ball bearings and no bolsters are lubricated with the *right amount* of a high quality long-life anti-friction-bearing grease. These spindles should be cleaned thoroughly every three to five years, and then relubricated with the *right amount* of the proper grease. This may be done by the mill if the necessary special equipment is available. Otherwise, it can be done by the manufacturers of the spindles.



NEARLY 50% of the power consumed by a textile mill is utilized for driving spinning frames. Importance of proper lubrication of these machines is obvious.

bottom draft rolls

During the break-in period of cast iron stands, the plain bearings of steel bottom rolls need an extreme-pressure lubricant until a durable polish is established on the bearing surfaces. After break-in, the second and back rolls are packed monthly with a stiff textile grease, and oiled weekly with a good heavy-bodied textile oil. The front rolls are oiled twice weekly with the same oil.

The plain sintered-bronze bearings of aluminum alloy stands must

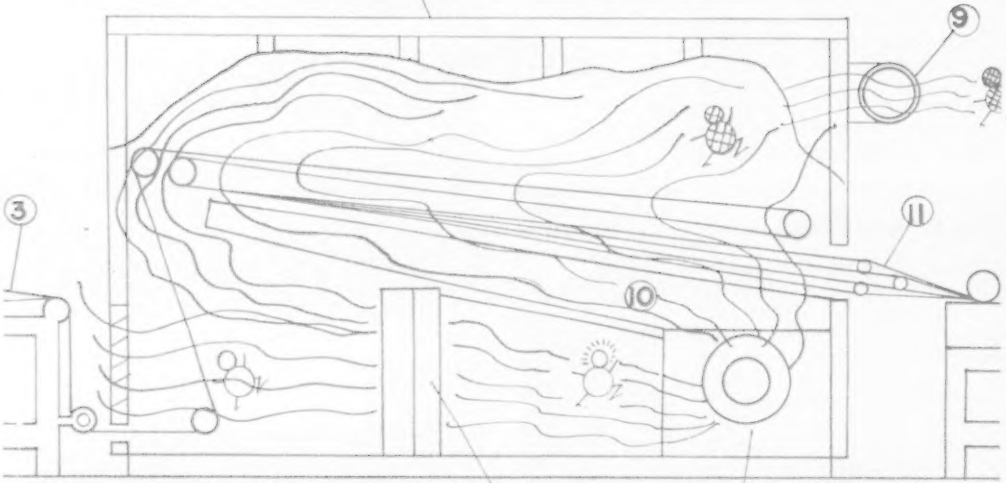
*Previous articles in this series were published as follows:
Article 1—Opening and Picking Machinery; July, page 92.
Article 2—Cards; August, page 129.
Article 3—Combing and Drawing Machinery; September, page 177.
Article 4—Roving Frames; October, page 151.

Announcing

The Model B

Uxbridge "Gentle-Air"

dryer for slashers



Smaller in Size — Lower in Price

- But capable of producing the same high quality warps at high speeds and lower costs as the Model A.
- The product of 8 years of research, the Model B is designed for cramped quarters where the Model A would not fit, and for mills which do not require the tremendous production of the Model A.
- Same high safety factor as with the Model A — No Explosion Hazards.
- All parts completely accessible for servicing.
- The same low cost, high quality operation.

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be lubricated with oil only. A good heavy-bodied textile oil, containing no soap or other filler, should be applied once or twice a week.

Anti-friction bearings require the right amount of a high quality anti-friction bearing grease. These bearings should be cleaned and relubricated every four to six months.

top draft rolls

The nebs of solid top rolls are oiled sparingly every 40 hours with a very heavy-bodied textile oil. Front shell rolls may have anti-friction bearings. Ball or roller types are lubricated every 4 to 6 months with the right amount of a high quality anti-friction bearing grease. Needle types need a good medium-heavy-bodied textile oil. These bearings should be cleaned and relubricated every 4 to 6 months.

Special bearings, such as Oilite, require lubrication once a week with a very heavy-bodied textile oil, containing no soap or other filler. Nylon bearings require little, if any, oil.

Saddles are wick-oiled, and require an extreme-pressure lubricant during break-in, until a polish has been established on the roll necks. The wicks should then be kept saturated with a very heavy-bodied textile oil.

tape tension pulleys

In order to reduce friction, wear, and power loss, the plain bearings of tape tension pulleys should be lubricated every 8 hours with a good general purpose textile oil.

Wooden bearings that are oil-soaked should be removed every six months for inspection. Before they are installed again, a few drops of spindle oil should be applied.

Anti-friction bearings should be lubricated with a high quality ball-and-roller-bearing grease, which is usually applied by means of small grease cups. Each cup should be given one turn every 6 months and refilled when necessary.

When the grease is applied by means of a special gun, a single application every 10,000 hours is usually all that is necessary, using care not to overfill a bearing with more than the right amount.

Some anti-friction bearings are sealed in such a manner that a spindle oil is applied once every 4000 hours by means of a metering oiler resembling a hypodermic needle.

main driving gears and shaft

Main driving gears in the head end of a frame are often hand-oiled and receive their lubrication from oil piping leading from the outside of the frame. The worm gear that drives the cone shaft runs in a bath of oil.

In some of the newer machines, centralized oiling systems supply lubrication to the main driving gears. When equipped with the correct sizes of metering valves, these systems have proved more reliable than hand-oiling. All an operator needs to do is to pull the T-handle at intervals recommended by the builder of the machine.

Profits from good lubrication of ring spinning frames are realized when nearly perfect yarn is spun, with few ends down, freedom from poor building, low maintenance, and substantial power saving.

Plain bearings of the cylinder shaft of the main drive are lubricated with a heavy-bodied textile oil. Hand-oiled bearings require lubrication every 80 hours.

Ring-oiled bearings require less attention, but the level of oil in these bearings should be inspected regularly. If the level falls too low, there will be excessive wear. When makeup is added, care should be taken to avoid overfilling. Too high a level will result in leakage.

When fitted with bottle oilers, these bearings receive a continuous and sparing supply of oil. They are never likely to be without lubrication because the available supply of oil in the bottles is visible at all times.

Anti-friction bearings should be lubricated every 4 to 6 months with the right amount of a high quality anti-friction-bearing grease.

builder motion

The plain bearings of pitman rolls are usually lubricated every 8 hours with a general purpose textile oil, which is applied sparingly by hand. Unless these bearings receive proper attention, the resulting wear produces "flats" that prevent proper turning and cause erratic movement of the rolls. When this is transmitted to the motion of the ring rail, the build of the bobbins suffers.

Anti-friction bearings should be lubricated every 4 to 6 months with the right amount of a high quality ball-and-roller-bearing grease.

spindle oil

In the spinning room of a textile mill, there are many thousands of spindles. The great majority of these have plain bearings, plain bolsters, and are bath-oiled. The power they consume increases or decreases with increased or decreased speed and weight of package.

Increase or Decrease in Speed (rpm)	Increase or Decrease in Weight (ounces)	Power Consumption per Spindle (watts)
±1000		±1.20
	±5	±0.25

In any effort to increase profits by saving power, the viscosity and quality of the spindle oil are important. For a given speed and weight of package, the viscosity of a suitable spindle oil will fall somewhere in the range of 60 to 100 S.S.U. at 100 F. An increase of 20 seconds above the viscosity

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The 40-inch batch Benninger Dye Jig handles 1200 yards at one time. Saves on time, labor and dyestuffs. Can also be used for smaller lots. No problem of matching shades. Eliminates the necessity of processing goods in a number of small machines. Increases production.

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BUTTERWORTH

that is best for a given set of conditions has the effect of increasing the frictional drag of a spindle and increasing its power consumption by as much as 1.2 watts.

To increase profits by saving power, only a high quality oil of proper viscosity and one capable of resisting oxidation and thickening in long and continued service should be used in bath-oiled ring spindles.

spindle wobble

The prevention of spindle wobble is one of the most important production problems in a textile mill. For example, a spindle with its package enough out of balance to cause spindle wobble consumes more power than necessary for any given set of conditions. The increased power consumed by an unbalanced bath-oiled spindle, lubricated with a 60-second oil, carrying a 20-oz package, and spinning at 8875 rpm, is equivalent to the power consumed by a balanced spindle if the viscosity of the oil were increased 17 seconds, or if the weight of the package were increased 15 ounces, or if the speed were increased 800 rpm.

That is why the viscosity and load-carrying characteristics of a spindle oil should be enough to prevent excessive wear, vibration, and spindle wobble caused by faulty lubrication.

draft roll oil

When a good textile roll oil was applied on a twice-a-week schedule to the draft rolls of the spinning frames, there was noted a drop of 5% in power consumption. This was accompanied by a reduction in wear and in the replacement of parts.

general lubrication

The use of the right products for the lubrication of ring spinning frames, instead of ordinary oils, showed the following marked savings in power consumed:

Lubricant	Starting Load (horsepower)	Average Running Load (horsepower)	Spindles Per Horsepower
Ordinary Oils	36.80	22.30	52.00
Good Textile Oils	25.40	21.48	53.70

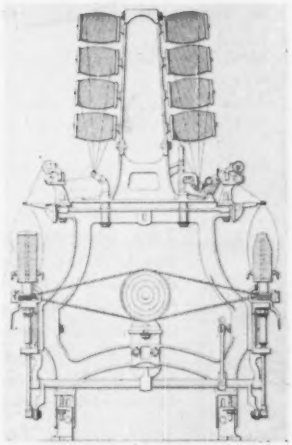
The results of this test are typical of what can be done to increase profits by the proper lubrication of spinning frames.

Lubrication of Twisters—Spindles

Except for the spindles, the rings, and travelers, the lubrication of a twister is essentially the same as the lubrication of a spinning frame. The same oils and greases are used, and the same care is exercised in their application. However, because twister spindles are more heavily loaded than spinning spindles, the possibilities for saving power by good lubrication are greater than in spinning. A high quality oil which is capable of resisting oxidation and thickening in long time service should always be used.

Twister spindles with plain bolsters require a heavier-bodied oil than spinning spindles.

Roller-bearing spindles, with oiled bolsters, operate satisfactorily with an oil somewhat lighter in body than the oil that is used for twister spindles with plain bolsters.



TWISTER LUBRICATION is essentially the same as spinning frame lubrication, with the exception of spindles, rings, and travelers.

twister rings and travelers

Except for fine twisting, twister rings are larger than spinning rings; and the travelers are heavier than those used in spinning. Rings with horizontal flanges for holding the travelers are sometimes used. Rings with vertical flanges, however, are more common.

The limit of spindle speed depends to a large extent on the speed at which a traveler can operate satisfactorily. To protect against excessive friction, overheating, wear, and erratic operation of travelers—good lubrication is necessary. For greatest production of satisfactory quality, continuous lubrication is important. Depending on the design of a ring, either grease or oil may be used.

Grease Lubrication. A grease-lubricated vertical ring may have a specially shaped groove on its inner surface. When a twister is down after a doff, these grooves are dabbed with a touch of grease. In operation, the grease is distributed by the fast moving travelers. As the grease warms up, it flows down the inner surfaces of the rings and keeps the knees of the travelers lubricated at the points

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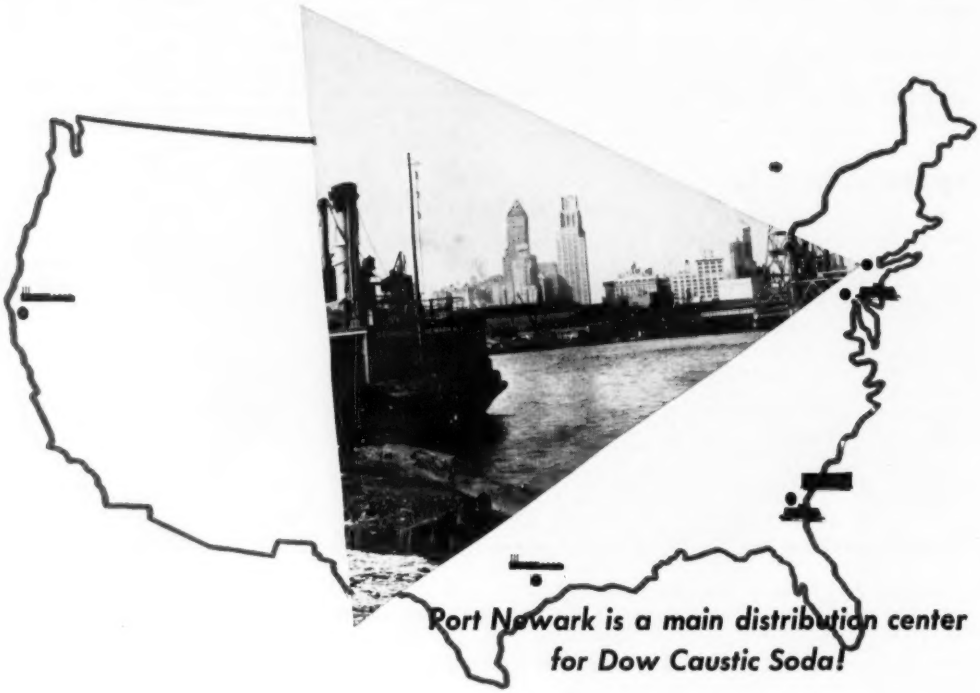

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where they rub against the rings.

In some designs, the inner surface of a vertical ring has two grooves—an upper groove and a lower groove. While the grease in the upper groove flows down and lubricates the knee of the traveler, the grease in the lower groove flows through holes in the ring and lubricates the heel of the traveler at the point where it rubs against the bottom edge of the ring.

Mechanical lubrication by means of a central pressure-grease system gives a more dependable supply of grease. This is especially beneficial near the end of a doff, when effective lubricating films are needed most, and when the meager films that remain after hand-lubrication are least effective. Tests have shown not only lower ring temperature and less traveler wear with mechanical application, but the least ring temperature and lowest traveler wear as the time between applications is shortened.

Twister Ring Grease. Traveler life depends on the quality of twister ring grease used. The most suitable grease should be reasonably soft, but not too free-flowing. And it should be light-colored and stainless. In addition, it should be stable enough to resist oxidation and separation at the normal temperatures encountered, and it should have enough film strength to protect against ring and traveler wear.

If applied by hand, the grease that is used should be stiff enough to provide lubricating films that will last for at least an entire doff, but not so stiff that those films will put too much drag on the travelers.

If the grease is applied mechanically by a central pressure system, it should be just soft enough to be handled with comparative ease.

Oil Lubrication. Oil-lubricated twister rings are fed by wicks which bring a small but continuous supply of oil from a reservoir in the ring rail to grooves or slots in the inner faces of the rings, where the oil in the embedded wicks is wiped off by the fast-moving travelers.

The rate of flow of oil to the embedded ends of the wicks depends largely on the viscosity of the oil and the speed of the travelers. A suitable oil should be light enough in body for adequate lubrication, but not so light that the rings become over-lubricated.

For average twisting, where the surface speed of the travelers is considerably under 5000 ft/sec, a medium-bodied oil is highly satisfactory. However, as the surface speed increases, and approaches 5000 ft/sec or higher, a lighter-bodied oil has been found necessary in order to distribute properly.

In addition to having proper viscosity, a suitable oil for twister rings must be non-staining and stable enough to resist oxidation and thickening in service. And it must have enough film strength to protect against excessive friction, overheating, and wear. Light-colored oils are always preferable.

Replacements. Evidences of unsuitable lubricants and ineffective lubrication are: black staining of rings, chatter of travelers resulting in ends down or poor twist, chatter marks on the rings, and rapid wear of rings and travelers. Normal wear, however, can be expected even with good lubrication. Change periods for travelers should be established on the basis of making such changes before general breakage occurs.

(To be continued)

World Cotton Production

World cotton production in 1951-52 is tentatively estimated at 35,300,000 bales. The estimate is 7.8 million bales, or 28 per cent higher than the revised estimate for 1950-51, but it is 9 per cent below the record world crop of 39 million bales produced in 1937-38.

The 1951-52 increase in world production is attributed mainly to an increase of 6.9 million bales in the U. S. crop. Foreign production increased by only 900,000 bales.

Dynel Shows High Resistance to Chemicals

High resistance to a wide variety of acids, alkalis, salts, amines, and bleaches was shown by 100% dynel fabrics tested recently by Better Fabrics Testing Bureau, Inc.

Undyed dynel was immersed for 20 hours in 80 chemical solutions to test the effect on the fiber's visual appearance, shrinkage, and loss of strength. Temperatures of the tests varied from room to boiling.

In most of the corrosive solutions tested, the dynel was either completely unharmed or marred only by slight discolorations, the fiber manufacturer states. There was negligible loss of strength and no shrinkage.

Commenting on results of the tests, Carl A. Setterstrom, sales manager of the Textile Fibers Department, Carbide and Carbon Chemicals Company, a division of Union Carbide and Carbon Corporation said: "The Better Fabrics tests, translated into practical purposes, mean that dynel can be cleaned or decontaminated with many acids or disinfected in strong bactericides. They also mean unusually long laundry life for dynel fabrics. Dynel's chemical resistance is proving valuable in a varied list of products such as crib and bed blankets, work clothing, filter cloth, dust-fume bags, ion exchange resin bags, water softener bags, and other industrial uses.

"Dynel's resistance to acids and alkalis will also be valuable in products that are just beginning to reach the market. These include practically every type of men's, women's, and children's clothing that requires bleaching or disinfecting."

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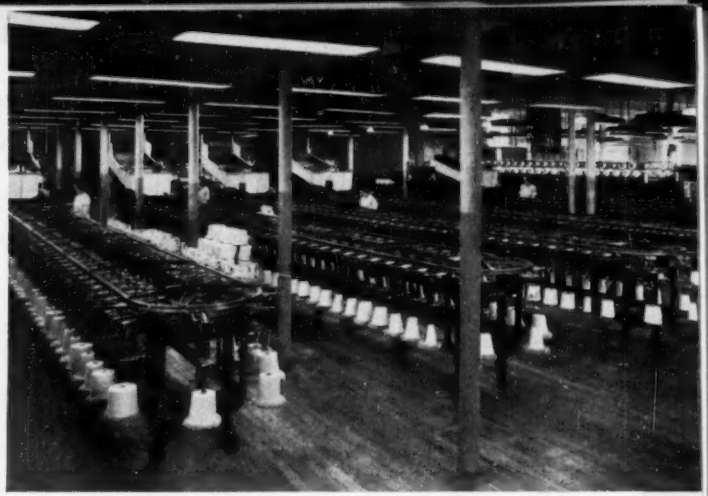

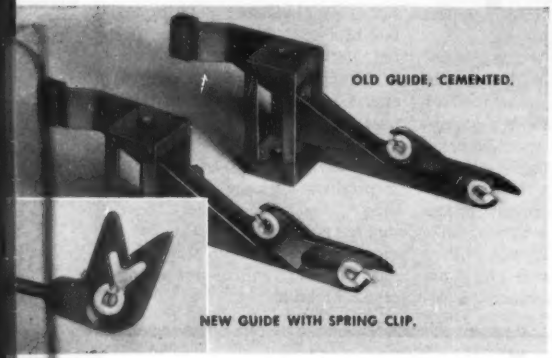

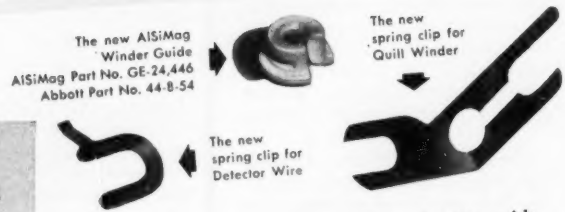
The new AlSiMag Winder Guide
AlSiMag Part No. GE-24,446
Abbott Part No. 44-8-54
The new spring clip for Quill Winder
The new spring clip for Detector Wire

NEW SPRING CLIP CONSTRUCTION locks the guide firmly in place • NO CEMENTING • NEW GUIDE CONSTRUCTION permits spring clip to hold firmly. Flat and parallel notches on each side under shoulder of guide prevent the guide from rotating • GUIDES CANNOT BE THROWN OUT • NO GUIDE BREAKAGE FROM IMPACT OF THROW OUTS • GUIDES CANNOT ROTATE OUT OF POSITION • LONG CONTINUOUS RUNS ASSURED

Many textile men have asked for a better means of holding guides on quillers and detector wires. The speed and nature of this work makes it difficult to firmly secure these guides and prevent "throw outs" with the customary cementing methods.

In collaboration with Abbott Machine Company, American Lava Corporation has developed a greatly improved AlSiMag 192 eyelet construction used on quill winders and detector wires. Eyelet is held in place firmly by a new type spring clip.

These new AlSiMag eyelets and the spring clips fit your present Abbott Winders. Nothing to buy except the new AlSiMag Guides and the spring clips.

Installation is far quicker, easier than old type. No cement. Simply insert these eyelets and snap the spring clip into position. Easily removed but cannot be accidentally displaced.

The spring clips may be ordered from Abbott Machine Co., Inc., Wilton, N. H. The guides are stocked by Abbott for immediate shipment or may be ordered from American Lava Corporation, Chattanooga 5, Tenn., for shipment after normal production interval.

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A DOZEN stockings should be taken from each machine weekly and looped by an expert looper, and the looper's suggestions should be attended to promptly.

EXCLUSIVE

By **STANLEY ROSENBERG**

Helpful suggestions to prevent menders in

Looping Ladies' Hosiery

IN HANDLING looped goods, more care should be taken by checkers when counting dozens and placing the work in bags again. Did you ever watch these girls? Try it some time and see how they can toss the goods around, making more pulls and snags in the goods.

Bags for holding goods are provided with snaps for tickets; these get rough and require attention. Tickets are left to swing free and continually get tangled with the loose hose, also causing defects. Why not put a pocket on the outside of the bag with a transparent section through which the ticket may be seen? This will more than pay for the trouble to have them put on and can be done easily at the mill.

Loose articles such as handbags, boxes, shoes, and compacts should never be allowed in the work baskets. Jewelry should not be worn in the looping department. Emery boards and hand lotion should be provided to help prevent rough spots on hands from spoiling goods.

Protective Covers. The looper table should be well protected with canvas where the hose brushes against the table, and a long apron extending well down toward the floor should be provided for protection. Chairs also should have a canvas cover that can be slipped on and off for washing purposes when necessary.

The looping machine toe can be provided with a ring that fits directly below the dial and rotates with the dial. The ring keeps the hosiery from rubbing excessively and being snagged. Care must be taken in making and installing the ring, otherwise the results will be worse than if it were not used.

Operatives should have scissors free of rough spots or burrs which may damage the stockings in cutting the strings holding dozens together.

Looping Machine. The machine also requires attention in that looper knives must be kept sharp, and the fixer should keep them in good condition. Otherwise menders may be allowed to go through, and the operative will not see them all. Some fixers become interested only when an inspector or a superintendent tells them about the bad conditions. Knives must be adjusted to the level of the dial, otherwise they will cut too much on the inside or the outside row of stitches. They may be low at the rear edge or the front edge which causes extra threads to go around and be looped, thereby breaking some stitches and making poor work in looping.

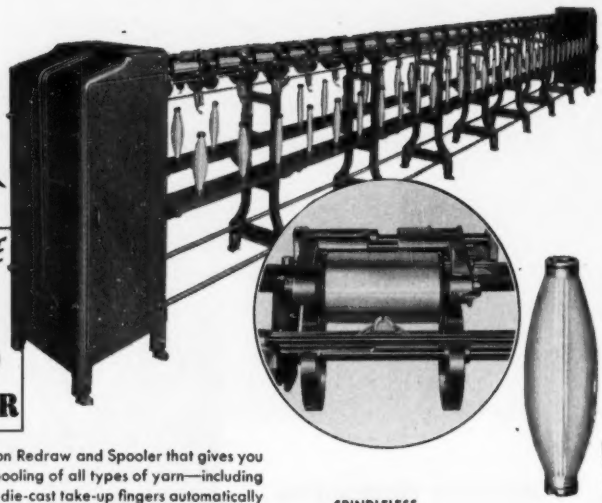
Brushes must be set just right or they will fray the loops and cause weak stitches. The looper needle must be tracking on the points perfectly and not higher than is necessary. High needles will extend the loops, causing

(*Continued on page* 204)

NEW! FULLY MODERN! SPINDLE-LESS!

a simple twist of the wrist sets your production speed— 250 to 750 yards per minute!*

U.S. ACME HIGH SPEED SPOOLER



Here is versatility at its profitable best! A combination Redraw and Spooler that gives you high speed redrawing, skein winding and accurate spooling of all types of yarn—including fine denier synthetics—in one fully modern unit! New die-cast take-up fingers automatically open (when lifted to an upright position) to doff bobbins. Bobbins are driven by new type pre-lubricated driving rolls with all rubber driving heads. 250 to 750 yard-per-minute speeds (*depending upon type of yarn and package) are instantly available from the variable speed motor drive at a simple turn of the hand crank. Machines are built for bobbins of 4" to 7" traverse.

SPINDLELESS CONSTRUCTION handles yarn from BOBBINS - CAKES - CONES PIRNS - SKEINS

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DRONSFIELD'S

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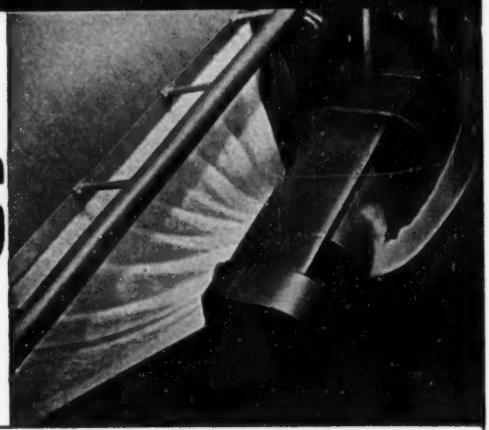

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Someone who can improve American marketing methods of textiles would be almost as great a benefactor as Arkwright or Crompton.

Improved Distribution of Goods

By RINGGOLD ARDEN

WE HAVE commented from time to time upon the fabulous increase of productive capacity, and how it has been the cornerstone of our modern prosperity in this country, and of others which have mechanized their industries. We have also from time to time mentioned the lamentable fact that distribution of many things is handled in basically the same manner as for thousands of years before the Industrial Revolution.

In fact, distribution in many cases is less efficient today than it was 200 years ago. At that time when the purchaser went into a shop and bought something, it stayed bought. There were no returns, no exchanges, no questions or complaints. If the purchaser made a mistake, it was his tough luck and he kept his mistake. The rule of *caveat emptor* prevailed nearly everywhere.

If the buying habits of the public could be changed to permit the efficient distribution of goods, we would probably have to build a lot more mills instead of junking those we now have.

Our modern methods of retailing are certainly more satisfying to the purchaser than these old ones, but they are generally not efficient in moving goods at low cost from the manufacturer to the consumer, and much of the great reduction in the cost of goods made possible by improved manufacturing methods has been offset by increases in the cost of distribution.

Ingenuity has accomplished little in getting these distribution costs down except in limited cases. The supermarket has made a noticeable reduction in the cost of selling packaged groceries as compared with the old-fashioned over-the-counter method, and the 10-cent stores have reduced somewhat the cost of getting the customer to pick out what he wants to take home. These are not startling improvements, however, and in the great majority of stores, the routine of a sale is the same that it was in Egypt 5000 years ago, except that we have generally done away with the haggling.

With some of our strictly modern gadgetry, we do a pretty good distribution job. The mark-up on an automobile, an electric refrigerator, or a television set is generally about 25 per cent. With a vast amount of retail goods, however, mark-ups of 100 per cent are routine, and 200 per cent is not uncommon. Textile products very generally seem to carry abnormally high mark-ups, and this not only injures the textile industry, but the buyers of its products.

We have worked wonders with the production of goods, and if there are to be any further spectacular improvements in our standard of living, these will very likely have to come through radical improvements in the distribution of goods, and few such improvements appear to be in sight just now. The trend is rather in the other direction—the direction of pampering and coddling and humoring the purchaser more and more unreasonably.

Our big department stores have spent lavishly for air conditioning and movable stairways and beautiful display counters and fleets of trucks to deliver stuff that customers will decide about buying after they get it home. Stores get more comfortable and nicer to shop in all the time, but there has been no noticeable reduction in the cost of merchandising.

When it costs more to take a bolt of cloth into a store and cut it up and deliver it to the customer than it did to raise the cotton, gin it, ship it to the mill, process it, ship it to the finishing plant and process it there, and then send it to the store, there must be room for a lot of improvement somewhere in merchandising.

Any textile manufacturer who has taken the trouble to shop around a store has seen examples of mark-ups between the store door and the customer's parcel amounting to twice the entire cost of producing the goods and delivering them to the store. The manufacturer has wrought miracles in increasing the volume of goods available at incredibly cheap prices in terms of the old-fashioned methods still pursued in retailing.

Is it possible to change the buying habits of the public to intro-

(*Continued on page* 206)

FOR EVERY FIBRE AND YARN

NEB—Precisioned to SIZE
NEB—Precisioned to YOUR spindles
NEB—Tested for accurate concentricity and bore
NEB—Designed for high-speed operation
NEB—Finished for long life, smooth performance
NEB—Quality-controlled from forest to you

Carefully selected rock maple (or birch) — straight-grained, sound . . . painstaking New England Bobbin craftsmanship . . . exclusive NEB finishes, *give you...*

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Let us send you samples

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VERSENE FE 3 Specific*
Most powerful iron complexing agent known in normal pH range.

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Most efficient general complexing agent. Softens water completely and permanently without precipitation.

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Prevents and removes iron deposits from fabric treated with concentrated caustic.

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Prevents hard water deposits and iron stains.

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The Chas. S. Tanner Company, as Southern Agents for the Bersworth Chemical Co., now offers you the Versenes in the South. By controlling metallic contamination, these most modern of chemicals give *cleaner* fibres, *softer* woolens and visibly *whiter* cottons. Among other things, they completely soften hardest water without precipitation.

OTHER TANNER CHEMICALS

Suedex Series.
These Resin Emulsions are semi permanent and easy to use in process finishing. Color yield is excellent and they give varying degrees of stiffness, fullness and finish on broadcloth and cottons of 80 squares.

Crystal Film.
These are Co-polymer type resins. They give beautiful transparent finishes. There are four types. Similar to Suedex in function but are used where even finer finishes are desired.

Ether Gum Binder.
For all types of clay or talc fillers for cotton goods. Non-yellowing properties.

Tantex A and Tantex B.
The *Durable* Type Water Repellent. Cottons treated the single bath Tantex way will retain their repellency for 3 washings or 3 dry cleanings. It will pay to investigate.

CST Gum No. 5.
A weighter type material. Used as a finish but imparts much weight to the fabric.

Tanamine Series of Softeners.
This is a complete line of cationic, anionic and non-ionic softeners.

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• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Shorts Cuts • Comments from Readers •

Discussion on Treating Duck Fabrics in Finishing

EXCLUSIVE

The articles appearing in this department, like those in the feature section on which this symbol appears, were prepared exclusively for TEXTILE INDUSTRIES.

Question Briefed: *We are seeking answers to the following questions:*

(1) *What are the methods and chemicals used in waterproofing duck?*

(2) *What chemicals are used in preventing mildew or bacteria on duck?*

(3) *Are awnings which have woven stripes treated with rot-proofing agents?*

(4) *In printed awnings, what are the paints being used?*

(CONTRIBUTOR No. 8384, *November*, 1951).

EDITOR TEXTILE INDUSTRIES:

The questions asked by CONTRIBUTOR No. 8384 could be answered in great detail—in fact, I think I could write you a book on the subject—but I will try to answer them for you as briefly as possible.

(1) What is the method and chemical used in waterproofing duck?

The most common basic materials used to waterproof duck are petroleum waxes, petrolatums, and asphalts. Mixtures of these materials, blended to give the right consistency so that a dry and flexible hand will result in the finished fabric, are usually admixed with colored pigments and fillers and dissolved in a petroleum solvent. The duck can be processed with such a mix by simply passing it through a dip tank containing the mix, followed by scraping or squeezing off the excess, and drying over cans or in an oven to remove the solvent.

There are many refinements of this process which give improved hand, water resistance, or other desirable properties. Mildewcides or mildew retardants may be added to the mix.

One of the most important and useful variations of the forementioned method is that modification which permits application of the wax-pigment mixture without any solvent. This hot melt method permits very high-speed production relative to the solvent method, and of course the important saving in solvent.

There are several other methods of waterproofing duck, including the insoluble soap treatments, the aluminum acetate repellent type of finish, and the fire-water-weather-mildew resistant finish.

(2) What chemicals are used in preventing mildew or bacteria?

There are a great number of chemicals which have been used as mildew retardants in finishing duck fabrics. Copper naphthenate, copper oleate, and copper hydroxy-naphthenate are still among the most effective materials in the finishes where a green color is not objectionable. (Color pigments usually conceal the green appearance on everything except on white finished goods.)

In addition to the copper organics, salts of mercury are used as well as organic mercurials. There are also a number of organic materials, such as the Dowicides and the Santophens which are fairly effective.

(3) Are awnings which have

KINK CONTEST!

15 minutes of your time may be worth $100

This contest ends March 15, 1952.

EVERY kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are received.

The contest rules are simple:

All contributions must be postmarked not later than midnight, March 15, 1952.

A photo or rough sketch will make your entry more valuable, but if you don't have either, send us your kink anyway.

A single $100 award will be made at the close of the contest, and the decision of the judges is final.

Send your contest entry to: Editor TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 5, Georgia.

Merry Christmas!

May the Season
bring Years of Peace...
of Peace on Earth,
Good Will toward Men.

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BETTY HUTTON
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Cecil B. DeMille's
"THE GREATEST SHOW ON EARTH"
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woven stripes treated with rot-proofing agent?

Some are, and some are not. I believe that the majority are not. It is perfectly possible, however, to treat such awnings with a mildew preventive finish that will not obscure the brightness of the woven stripes.

(4) In printed awnings, what are the paints being used?

These awnings are usually referred to as striped or painted awnings, rather than printed awnings. Specially formulated oil paints have been the traditional material used for these awnings. Oxidizing oils such as linseed oil are used as the vehicle for these paints. The fabric, after striping, is festooned to permit the slow oxidation of the oil to be completed. Recently there have been several advances in awning stripe paints, with vinyl and methacrylate resins finding some use. Some fire resistant paint is also being used to stripe the awnings.

CONTRIBUTOR No. 8304

pH of Humidifier Water Corrected

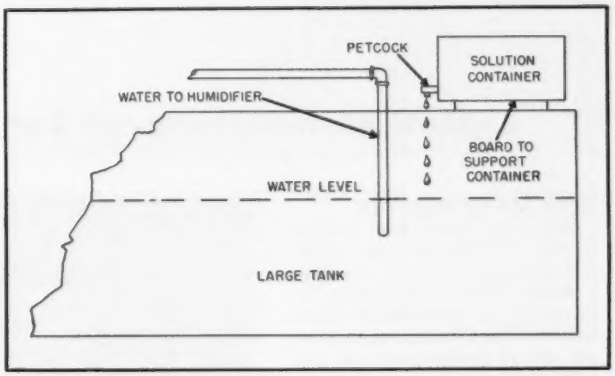
EDITOR TEXTILE INDUSTRIES:

Our mill's entire humidity system is fed water from a large open tank. Fresh water is constantly fed into the tank to maintain the same water level at all times. Formerly, a shop employee put a can of compound into the tank two times each shift in order to bring the water to the correct pH. At the time the can of compound was put into the tank the pH of the water went to one extreme; then it gradually went to the other extreme as fresh water was fed into the tank. The extreme variation from an acid to an alkali solution and back again is not desirable because rust is induced on the machinery.

The only way we found to combat the variation was to have a constant feed for supplying the compound to the water. The compound is in powder form, so we saturate a quantity of water with the compound and place the concentrated solution in a container above the humidifier tank. A petcock in the bottom of the container is set to allow the correct amount of the solution to drip into the tank. The correct amount to feed may be determined by trial and error, and an experienced operator can set the drip quickly.

Water in the tank is checked with pH paper at intervals, and the concentrated solution is supplied to the container about once each week.

The container is washed out once every sixty days. We have solved our problem with excessive pH variation and rusting machinery at very low cost with forementioned arrangement.



CONTRIBUTOR No. 2273

Variation at Drawing

Question Briefed: *Variation in the weight of drawing has been troublesome to us recently. We have taken three weighings from the same head at various times during the day and have found as much as five grains difference in the weight.*

A 14-oz lap is used to make a 65-grain card sliver. Drafts of 6 on first drawing and approximately 7 on finisher drawing produce a 55-grain finisher drawing sliver. Cards are manually stripped twice each eight hours.
(CONTRIBUTOR No. 8324, *Oct.* '50.)

EDITOR TEXTILE INDUSTRIES:

CONTRIBUTOR No. 8324 stated that he checked the mechanical condition of his drawing frames and cards and found them in good condition. I have had a lot of experience with uneven sliver, and I should like to offer some helpful comments.

In looking for the causes of variations in drawing sliver, it is

best to start at the pickers. Be certain that a lap of the correct weight is being made. If the lap varies much, yard-to-yard, you may be sure it will affect the weight of the drawing sliver.

Assuming that the cards are in good mechanical condition, check the tension between calender rolls and trumpet in the coiler head. Too much tension may stretch the sliver. If the trumpets in the coiler heads are worn on the cards or the drawing frames, the sliver regularity would be affected.

"Cork - screwing" laps may cause uneven sliver. Such laps split off on one end and leave part of the lap to go through the card, thereby causing a "singling." Few card tenders bother to remove the "singling" from the can unless one of the supervisors is nearby.

Card stripping causes some unevenness in drawing sliver, but this is usually taken care of by spot creeling the breaker drawing frames, and in extreme cases, also the finisher drawing frames.

Faulty piecing of ends by the card and drawing tenders may also cause a lot of trouble, and the fact that an operator will make a good splice when a supervisor is around does not mean that he will make a good one when he isn't watched.

The condition of the drawing cans should be checked as a precaution. If some of the cans have worn or broken tops and sides, the sliver may be weakened as it is pulled over the rough places.

Don't expect the sliver to be exactly uniform to the grain. There will be some variation despite all that can be done.

After checking all of the forementioned points, if the amount of variation remains excessive, go over the mechanical condition of the machines again, especially the card settings, roll settings, roll weights, and condition of roll flutes and journals. Something may have been missed the first time the machines were checked; therefore a second check should be worthwhile.

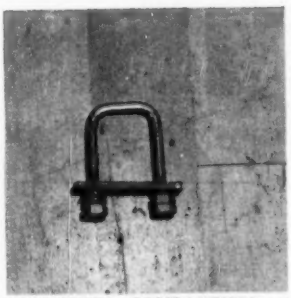
CONTRIBUTOR No. 8399

U-Bolt Reinforcement for Loom Pickers

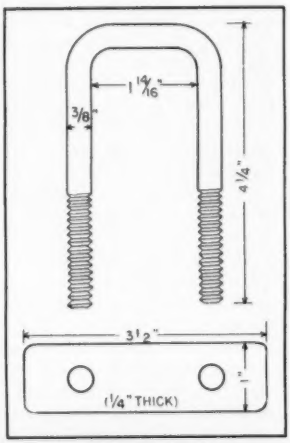
EDITOR TEXTILE INDUSTRIES:

Many loom fixers may prevent trouble with loose and broken heel bolts on picker sticks by installing a simple U-bolt reinforcement as shown in the accompanying illustrations. The U-bolt saves 85 to 90 per cent of broken and loose heel bolts and also prevents maintenance trouble with parallel tongues and butts.

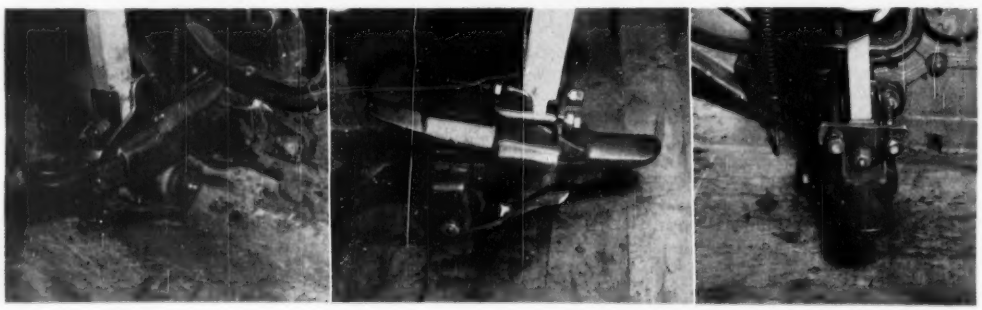
The accompanying sketch shows construction details of the U-bolt assembly.



ASSEMBLED COMPONENTS of improvised U-bolt reinforcement.



HEEL BOLT installation (below left) on picker without additional reinforcement. Center and right, two views of U-bolt reinforcement installed on loom picker.



Improved Method for Processing Reworkable Waste for Fine Yarns

EDITOR TEXTILE INDUSTRIES:

We make fine combed yarns, and the sequence of operations in processing reworkable waste in our plant is as follows:

(1) Waste is ground on waste machine.

(2) Accumulate enough waste to make one or more laps.

(3) Lap is put on and carded at desirable rate of production.

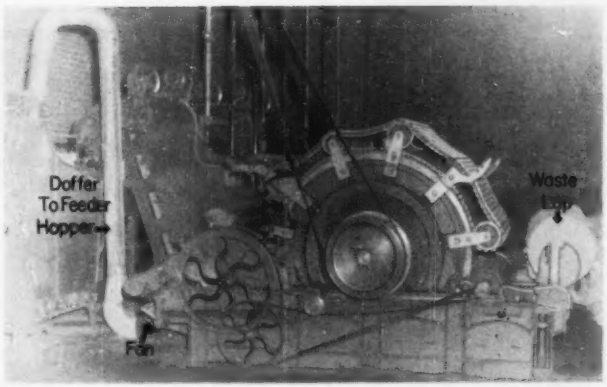
(4) Web is taken from doffer by 6-inch suction pipe and carried to the feeder hopper or condenser and distributed as the picker runs.

The foregoing operations have been in effect in our mill for some time and constitute the best method we have found for running waste.

The reworkable waste, such as roving and scavenger waste, is run through a regular waste grinding machine. When enough 100 per cent ground waste is accumulated, we run it through the picker into lap form for the card. One card is placed beside the feeder hopper. The coiler head is removed from the card, and the web is carried from the doffer by a 6″ vacuum pipe. The mouth of the pipe is placed close to the doffer. Mouth opening is 1″ x length of the doffer.

Stock is carried through the 6″ pipe and delivered into the feeder hopper. A small fan placed on the floor (where the coiler head was located) furnishes sufficient air to carry the staple to the feeder hopper. A comber fan does the job.

After the waste lap is on the card, the production rate is set to take care of the amount of waste made, so the card runs all the time the pickers are running. There is an even flow of carded waste going in all the time. The carding process removes excess neps, roving, threads, and foreign matter from the stock so that nothing but staple fibers go back into process.



Carding the waste eliminates the possibility of too much waste being fed at one time. If too much waste is fed, uneven work results throughout the different processes, and hard ends are produced. There is no extra cost of labor because the picker tender can lap the card, and there is no doffing to do. The result is better quality yarn, better running work, and lap weights are easy to keep.

CONTRIBUTOR No. 8424

Size Formula for Rayon - Cotton Blend

Question Briefed: *We should appreciate the advice of your readers regarding the type of size to use on a viscose-cotton blend; also the proper loom settings.*

The Style:

Warp: 40s, one-third of blend 1½ denier bright viscose, 1⅝″ staple; two-thirds 1⅛″ combed cotton. Filling is the same blend, making 42s. 127 ends; picks, 68; eight harness plain weave. (CONTRIBUTOR No. 8337, *October*, 1951.)

EDITOR TEXTILE INDUSTRIES:

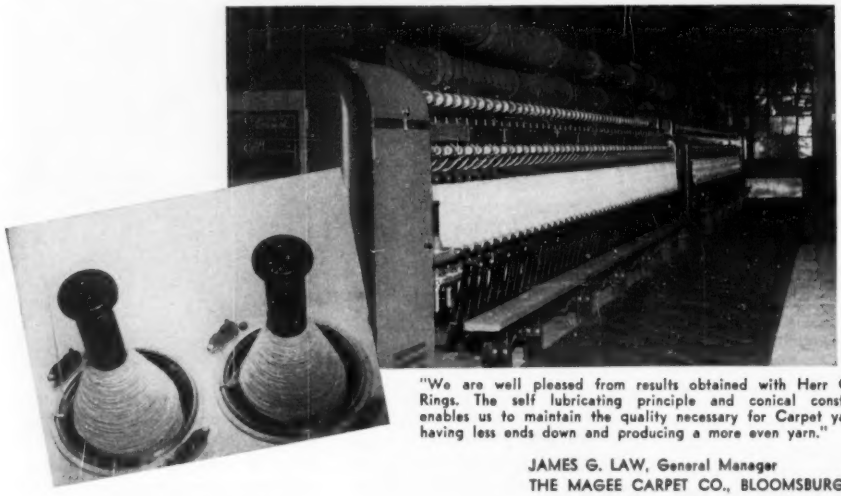
In answer to CONTRIBUTOR No. 8337, the final decision as to what he should use would require a good deal more knowledge of his conditions and of the finishing requirements than he has given.

In such a mixture we would recommend using a cotton size; the regular starch and a regular slashing compound that he normally uses for cotton. If the cotton size formula is properly adjusted, his weave room efficiency will be much better than if he used a regular rayon type size formula.

Of course, the cotton size will require an enzyme treatment for desizing. However, we do not feel that this is a "harsh" treatment when given under proper conditions by the converter. A lot of people do not realize that very

Only HERR *makes the* "CONICAL RING"

and The Magee Carpet Company is one of our many woolen and carpet yarn mill boosters



"We are well pleased from results obtained with Herr Conical Rings. The self lubricating principle and conical construction enables us to maintain the quality necessary for Carpet yarns by having less ends down and producing a more even yarn."

JAMES G. LAW, General Manager
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1. *Controlled Oil Flow to Traveler* —Self-lubricating, NO rewicking, minimum oil consumption, and longer traveler life.
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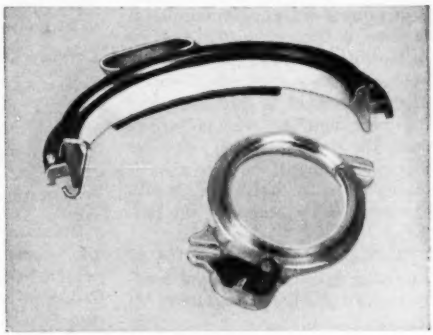
3. *More Even Yarn*—The *conical* shape produces an outward and downward action with the traveler riding on the top and side face of the ring. Can pack a firm bobbin with less traveler weight.
4. *Durable Construction*—Drop forged steel used. Mounted in special die-cast holders to accommodate any spinning and twisting rail condition.



Also used for Spinning and Twisting of Synthetic and Blended Yarns

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large quantities of rayon goods are given the same type of desizing treatment, using enzymes and following up with a scour, that cotton sizes normally get. About the only type of harsh treatment that cotton goods get these days that rayon does not undergo is that of kier boiling.

It should be remembered that the kier boiling process was not instituted to remove sizing ingredients, but to remove trash, natural impurities, mineral matter, cotton waxes, and other materials which do not normally occur with rayon. Therefore, whether a kier boil would be applied to the type of cloth that CONTRIBUTOR No. 8337 is considering, would have nothing to do with the size formula.

In general, rayon sizes are designed for ease of removal, which necessarily calls for a sacrifice in some of the other properties which are desirable in the size. However, converters these days are rapidly adjusting themselves to the use of enzymes for rayon desizing, and modern detergents permit good scouring treatment without damaging the rayon.

We definitely believe that CONTRIBUTOR No. 8337 should use his cotton size. He may, however, find that the formula will need some adjustment to get top weave room efficiency with the new blend. His starch or his size compound suppliers will undoubtedly be very glad to give him any help he needs in making this adjustment.

CONTRIBUTOR No. 8338

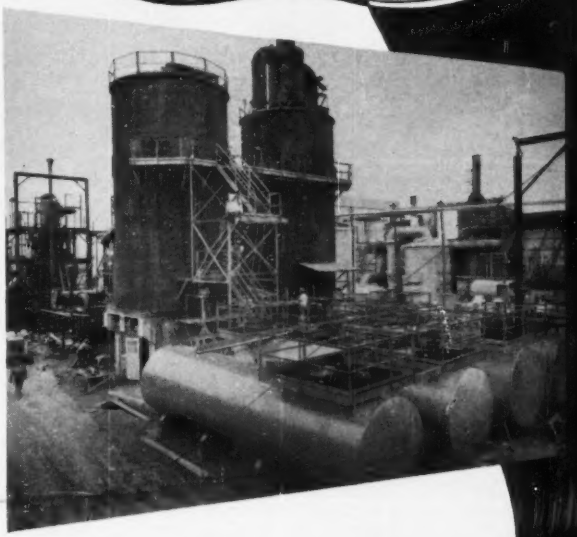
Picker Inspection Pays Dividends

EDITOR TEXTILE INDUSTRIES:

The condition of picker bars should be checked at least once a week by the overseer or second hand. The check should be made as a preventive maintenance measure as well as a means of checking on efficiency of the section men.

When machinery is stopped for

the capacity to build BIG!



When you have a liquid storage problem that is out of the ordinary, large or small, you'll find Birtank capacity and equipment equal to your demands. Time and again paper and textile mills, refineries, chemical plants and others have turned to Birtank with their container problems. They have learned that Birtank specializes in both large and small jobs performed satisfactorily, economically and on schedule.

Consult our engineers. Let your problems become their problems. Phone, write or wire for information.

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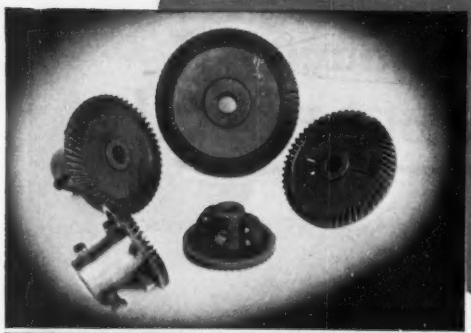
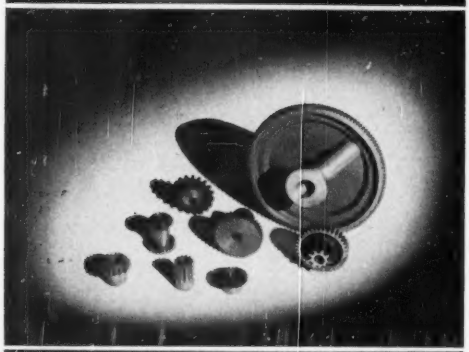
Fabricating Plants at Birmingham, Verona, Penna., Pascagoula, Miss. and Decatur, Ala.

SPECIALISTS IN THE FABRICATION OF BULK AND FIELD STORAGE TANKS—HEAVY PLATE WORK OF EVERY DESCRIPTION





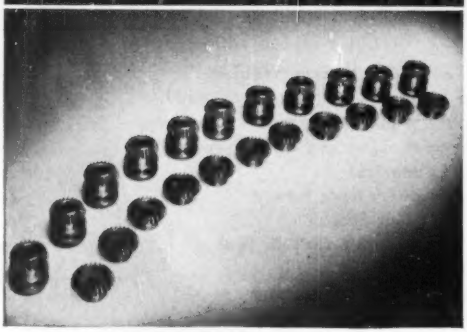


Plate and Coupling Gears
Card Coiler Gears
Bobbin and Spindle Gears

PRECISION MADE

Gear manufacture is not a simple foundry casting problem. Demands for long life—superior performance—efficient service, call for precise engineering in the process.

Gears by Southern States give longer, smoother, more efficient operation because they fit accurately, mesh easily, reduce chatter and vibration. This superior performance of Southern States machine-molded cast-tooth gears and precision-machined cut-tooth gears is achieved through modern metallurgical and foundry practices to assure uniformity of specifications. Accurate machining and rigid inspection assure maximum operating efficiency. Southern States products are guaranteed by an experience gained from thirty years of service to many of the South's leading textile mills.

Southern States Bobbin and Spindle gears, Plate and Coupling gears, and Card Coiler gears to fit all frames. Submit samples, drawings or specifications for quotations.

QUANTITY PRODUCTION OF CAST-TOOTH GEARS. CUT-TOOTH GEARS FROM 2 TO 32 DP.

Southern States Equipment Corp.

HAMPTON GEORGIA

Representatives - Mechanical Division

William A. Knapp
Atlanta, Georgia

John C. Walters
Hampton, Georgia

Roy Schrimshire
Columbus, Georgia

F. C. Todd, Inc.
Gastonia, N. C.

Matthews Equipment Co.
Providence, R. I.

C. H. Kennington
Charlotte, N. C.

Textile Parts & Machine Co.
Gastonia, N. C.

Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

the week end, all section men should be instructed to leave all beater and screen bonnets raised. Each machine can be checked in a few minutes and a record made of the condition of beaters, screens, and grid bars. A list of all necessary repairs or replacements should be made and given to the overhaulers or section men so that action can be taken by them when the plant starts again.

An accurate record should be kept of each new part or repair job done on each machine. The record should show the date completed and whether overhaulers or section men did the work. In this way responsibility for poor work can be fixed. A system of this type, if set up correctly and followed up with proper and accurate records, can improve the condition of machinery, thereby improving the quality of work produced. It also helps keep section men "on their toes." CONTRIBUTOR No. 8397

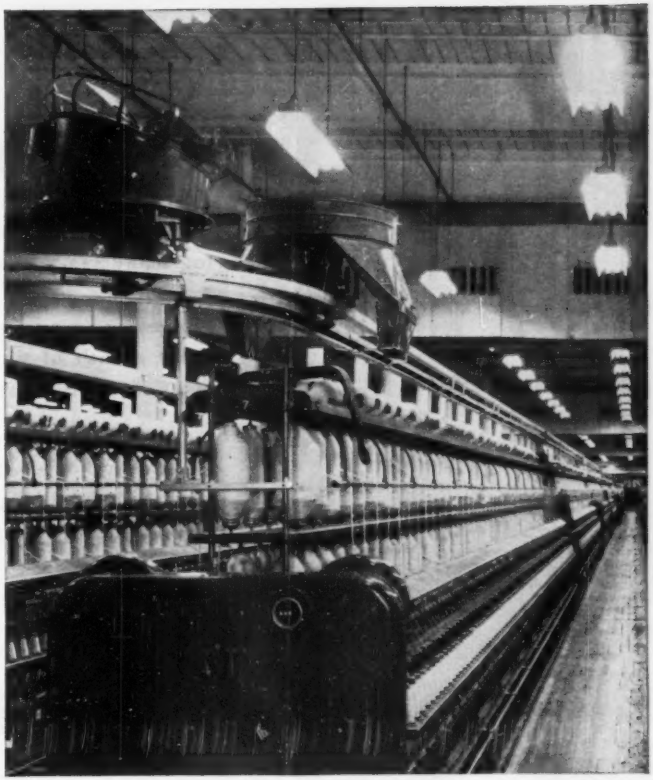
Looping Seamless Nylon Stockings

Question Briefed: *In looping seamless nylons, how many per dozen are made defective?* (CONTRIBUTOR No. 8403, *November*, 1951.)

EDITOR TEXTILE INDUSTRIES:

Our best results are obtained by looping 370-needle nylons on 38-point loopers, using a K-6 looper thread on the hook and needle, a 50-denier 7-turn nylon heel and toe yarn, and a 15-denier leg yarn. We have found that a low turn heel and toe yarn knitted not too tightly gives good results. The looper knives should be sharpened and kept closely adjusted—usually the knives are adjusted after 200 dozens are looped.

By using a cotton ravel course, we save a considerable amount of menders which may be caused by raveled stitches in the looper course. The menders occurred in handling the hose from the knit-



Continuous Cleaning

Ringrail to Rafters

They surely must be doing a job, these Parks-Cramer Traveling Cleaners, for they are now standard equipment for more than 17,000,000 spinning, twisting, winding, spooling, and warping spindles.

And now its own twin, the Up-draft Cleaner, prevents lint accumulations topside. With Frame Cleaners, it runs tandem. In cardrooms or in other preparatory areas, it runs solo. And will it keep lights, conduits, ducts, and such, clean? You wouldn't know the place!

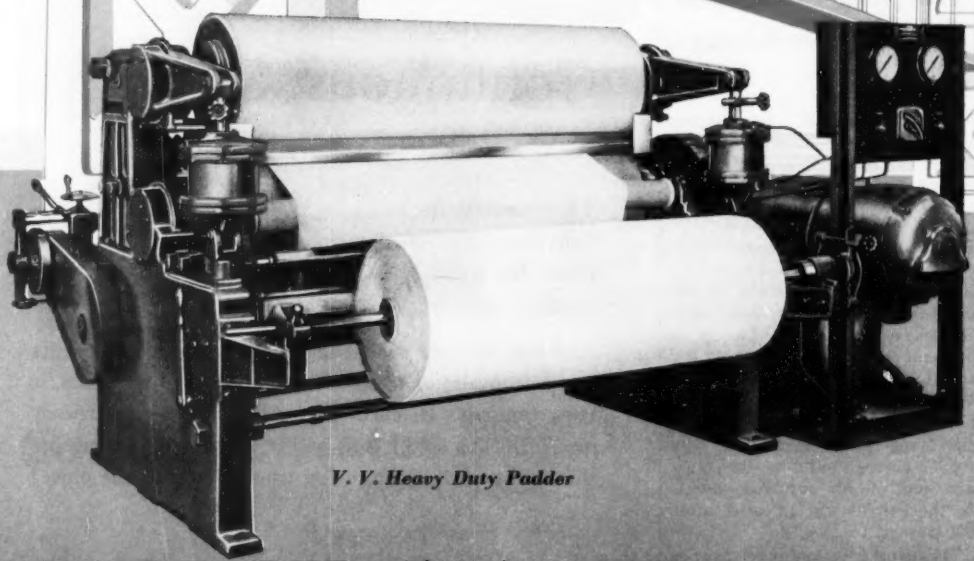
Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

Designed for the Future

Before a great new bridge is built its future is planned for many years to come. Planning just for *today's* requirements can be dangerous and costly whether it's bridges or processing equipment. The phenomenally rapid growth of the newer man-made fibers makes planning for *tomorrow's* processing needs imperative.

For the processor of modern fabrics, foresight dictates a choice of the most up-to-date equipment available. Looking beyond the present, V. V. designers have built into this heavy-duty padder advanced engineering features that will make it a standard of quality and performance for years to come. Specify Van Vlaanderen.



V. V. Heavy Duty Padder

VAN VLAANDEREN

Van Vlaanderen Machine Company, 370 Straight Street, Paterson 3, New Jersey, U.S.A.

Southern Representative: Parrott and Ballentine, 610 South Carolina National Bank Bldg., Greenville, S. C.

World's largest manufacturer of machinery for processing modern fabrics

ters to the looper operators. Our mender percentage average from the loopers is 1.25%. As a matter of comparison, I may add that we are getting about the same results on our 400-needle 3¾-inch cylinder machines, and the work is looped on 38-point loopers.

CONTRIBUTOR No. 8404

Traveler Cleaners on Spinning Frame

EDITOR TEXTILE INDUSTRIES:

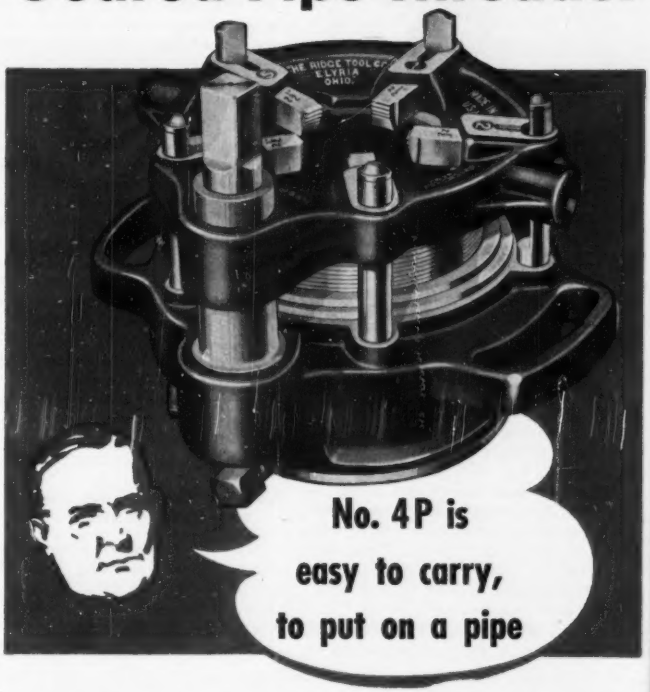
The traveler cleaner is an important asset on any spinning frame, but it is often the most neglected part of the frame. When the traveler cleaner is improperly set or broken, lint accumulates on the traveler, and the buildup may increase until the accumulation exceeds the weight of the traveler. The increased weight and bulk, caused by the lint, disturbs the balance of the traveler, and a corresponding decrease in speed may be noted. The result is evident in uneven yarn size and variation in twist.

Many overseers may have uselessly checked humidity, traveler size, and spindle speeds to find the source of trouble when actually the traveler cleaner was either missing or improperly set. Travelers that are kept clean will give longer service and better results.

An overseer of spinning recently reported a 20 per cent increase in spinning traveler life after initiating a systematic check of traveler cleaners. Section men were required to check each frame once a month and set and replace bent or missing cleaners. A few minutes spent doing this job can pay dividends in better quality and fewer ends down.

Traveler cleaners should be set close enough to the outside point of the traveler so that the lint may be easily transferred to the cleaner. A setting of three to five thousandths between the outer edge of the traveler and the cleaner is satisfactory. CONTRIBUTOR No. 8426

Easier to Handle this RIDGID Geared Pipe Threader

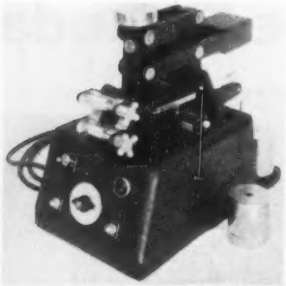


● You'll like the balanced loop handles that make it easy to swing the 4P around where you want it. Making it still more of a work-saver, mistake-proof workholder sets to size *before* you put it on pipe—only one screw to tighten, no bushings to fool with. 4 sets of 5 high-speed steel chaser dies give quick, clean threads on 2½", 3", 3½" and 4" pipe. Ratchet handle furnished—for power threading use with RIDGID Universal Drive Shaft and Power Drive. Save your muscles—buy this easier-to-handle RIDGID 4P at your Supply House.

RIDGID
★ Work-Saver Pipe Tools ★

NEW Equipment AND MATERIALS

Other items are described on pages 105 and 107



CSI Stoll flex tester.

Stoll Flex Tester

The CSI Stoll Flex Tester was engineered to assist production personnel in quality controlled testing as well as the research department in their research program. This instrument provides for flex abrasion, bending, roll and fold testing; and gives reproducible results using the automatic electrical endpoint. Entire series of tests may be obtained with no special skill required. Tests may be run wet or dry.

The general method of flex abrasion tests is as follows:

One end of the flex specimen is clamped in a quick acting clamp of the balanced head and then carried around the carboloy tipped flexing bar. The other end of the specimen is then clamped in the flexing block, and as the table reciprocates the specimen flexes and bends around the flexing bar. The mechanical linkage actuates the electrical flex control switch when the specimen ruptures, thus automatically stopping the instrument and recording the number of cycles at the end of the test.

An automatic timer may be used to flex a specimen to desired number of cycles as an alternate to having the specimen rupture. The tension load placed on the specimen and the load on the balance head are adjustable in accordance with the requirements of the test.

Custom Scientific Instruments, Inc., P. O. Box 170, Arlington, N. J.

For additional data, request item L-111, using business reply card on page 218.

Carpet Inspection and Mending Tables

Recently developed power-driven inspection and mending tables for carpet place the work directly in front of the operator and eliminate completely the old problem of individual handling of a carpet during inspection, with resultant saving in fatigue of the operator, the equipment manufacturer states.

The time saving made possible by this unit is fully 50%, according to reports from the first installations that were made. It is anticipated that greater savings can be accomplished where plant conditions permit more thorough use of the mechanized materials handling features included in the table.

Edward J. McBride Co., Philadelphia, Pa.

For additional data, request item L-105, using business reply card on page 218.

New Nylon Size

Commercial availability of a new nylon processing size has been announced. Known as Good-rite TS-20, the product is designed specifically for single end sizing and warp slashing.

TS-20 is supplied as a 25 per cent total solids solution which may be extended easily by adding cold water. When diluted, it is ready for use; it requires no additives. This size comes in lined steel drums.

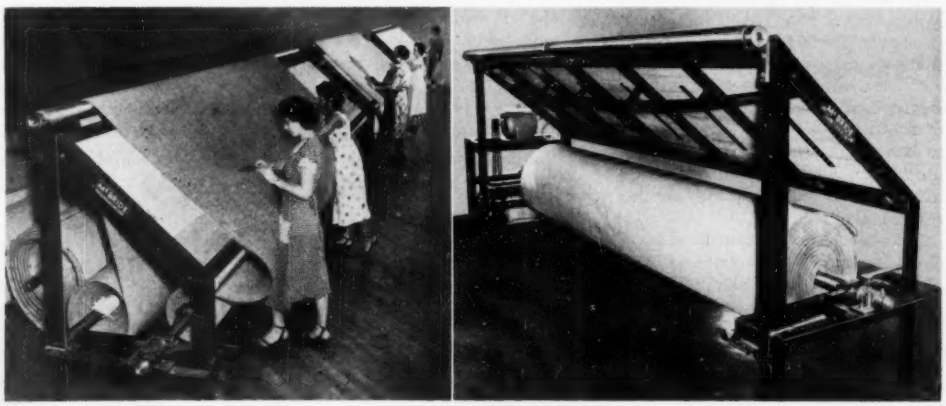
In addition to giving the fibers good abrasion resistance, the Good-rite size material provides a tough, flexible film which will protect the nylon itself from soiling during the weaving operation, according to the manufacturer.

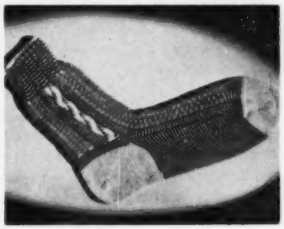
Not only is TS-20 readily applied from water solution, but in the scouring process it is also easily removed because of its water solubility.

B. F. Goodrich Chemical Company, 324 Rose Bldg., Cleveland 15, Ohio.

For additional data, request item L-108, using business reply card on page 218.

Inspection and mending table for carpets (McBride). Left, front view; right, rear view showing drive unit.





Right Angle Feature Prevents Wrinkling

The Hirner heel attachment, which permits the heel gore to be extended down into the foot of the sock, as shown in the photo, is now available for all sizes of the Scott & Williams Komet Links and Links machines. This device allows the knitting of extra fabric into the sole portion of the foot after the heel, thereby tending to bring the foot and the leg of the sock into right angle position.

The "right angle" feature eliminates wrinkling across the instep when the sock is worn, the manufacturer states.

Scott & Williams, Inc., 350 Fifth Ave., New York 1, N. Y.

For additional data, request item L-108, using business reply card on page 218.

Electronic Instrumentation and Control System

An automatic all-electronic instrumentation and control system for measuring and controlling process variables such as temperature, pressure, level, and flow, is known as the Swartwout Autronic Control System. Consists of three basic units: primary sensing element, autronic control unit, and final control element. Powered by 115-volt, 60-cycle a-c current. Manufacturer states that there is no transmission lag. Recorder can be provided for graphic presentation of process. Manual controller can be provided also.

The Swartwout Co., 18511 Euclid Ave., Cleveland 12, Ohio (L-201).

All-Steel Medium Duty Trailer

A new trailer for handling bagged material or to carry one or more pallets loaded with bagged material features smooth steel construction with rounded corners and edges to prevent materials from being torn. Each end of truck is equipped with removable tubular racks. Unit can be backed by means of a tractor without "jack-knifing," the manufacturer claims. Comes with cushion rubber wheels.

Market Forge Co., Everett, Mass. (L-206).

Controller Features One Knob Adjustment

A non-indicating, force-balance controller with only one-knob adjustment for two control responses is designed for applications where it is desirable to transmit the measured variable to some remote location. It is said to be particularly adaptable to flow, liquid level, or pressure applications requiring fast reset rates and broad throttling bands, or applications where derivative action is not essential. Features claimed: new and

NON-FLUID OIL
TRADE MARK REGISTERED

You Don't Need an Expert When You Use NON-FLUID OIL

Don't be lulled to sleep by the so-called expert theories that one grade of lubricant sold on a "specification basis" will be the answer to all your lubrication problems. *Don't you believe it!* There are just too many variables, such as temperature, humidity, operating speed and age of machine, to have one lubricant satisfactorily lubricate *all* of even just one type of textile machine.

Effective lubrication is obtainable only when the lubricant remains in the bearings. The yard stick that measures this effectiveness is performance and performance only.

NON-FLUID OIL is a specialty lubricant and sold only on performance standards. Its superiority over "straight run specification" oils and greases made it a target for all oil and grease companies to shoot at.

There's a grade of NON-FLUID OIL for every one of your textile machines in their present condition. "Service Test" the NON-FLUID OIL grade we recommend right in your own mill. Let it prove its superiority over "straight-run specification" oils and greases. Write for free sample and descriptive bulletin.

New York & New Jersey Lubricant Co.
292 Madison Ave., New York 17, N. Y.
Works: Newark, N. J.
Southern District Manager: Falls L. Thomason, Charlotte, N. C.
WAREHOUSES: Atlanta, Ga. — Birmingham, Ala. — Charlotte, N. C. — Chicago, Ill. — Columbus, Ga. — Detroit, Mich. — Greensboro, N. C. — Greenville, S. C. — Providence, R. I. — St. Louis, Mo.

55th ANNIVERSARY NON-FLUID OIL

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

PROCTOR

Automatic

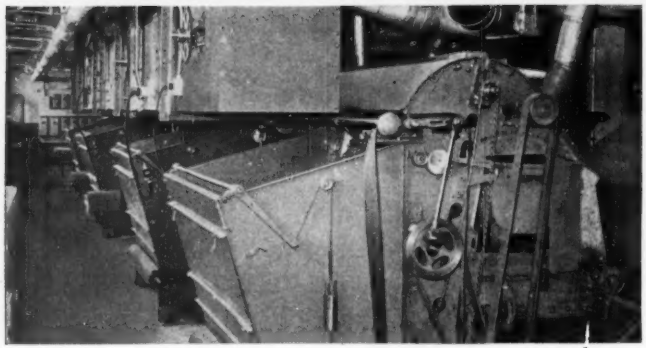
STOCK CONVEYING SYSTEM

Engineered to Your Needs

★ CUTS COSTS

★ ASSURES CONTINUOUS OPERATION

★ ELIMINATES UNEVEN FEEDING



Automatic systems of Proctor patented design for delivering stock where it is wanted, when it is wanted and in the quantity required to assure continuous operation—are in use in many modern textile mills throughout the country. These systems have reduced labor requirements to a minimum and have removed all of the guesswork and expense involved in hand feeding. Stock, which may have been put through a variety of preliminary operations, is conveyed, usually by an overhead system, to a spot above either card hoppers or storage bins. If the system is feeding card hoppers, it may easily be tied in with electrical controls on the feeds in such a way that when all of the hoppers are filled, the system ceases to operate . . . and shuts off all preliminary equipment to prevent any overrun. As soon as any hopper requires more stock, the system automatically resumes operation. There are many variations possible in the arrangement of equipment to suit the needs of woolen, worsted, carpet yarn and asbestos plants. Equipment arrangement is job engineered to meet individual mill requirements. Write for additional information.

AN INVITATION TO PATENT HOLDERS

Have you patented equipment which you have developed for your own line of business that you would care to have developed, manufactured, or sold?

If such equipment comes within the line of our manufacturing and selling experience, we would be pleased to have you contact us. We will discuss the matter with you without obligation. If there seems to be a mutual advantage we may be able to realize good returns on new developments.

For more information on Proctor equipment for the textile industry—see our catalog inserts in McGRAW-HILL TEXTILE CATALOGS AND DAVISON'S TEXTILE CATALOGS.

PROCTOR & SCHWARTZ INC.

610 TABOR ROAD PHILADELPHIA 20 · PA.

Designers and Manufacturers of Automatic Blending and Stock Conveying Equipment · Carding and Garnetting Machines · Dryers for Stock · Yarn Piece Goods · Nylon Setting

NEW Equipment AND MATERIALS

simplified control circuit which pneumatically links proportional and automatic reset responses together; controller action can be changed quickly and easily without disturbing piping connections; an optional, plug-in type leakless manifold provides a simple means for connecting or removing controller. Only 7½" overall length; throttling range, 1 to 200%; automatic reset of 0 to 100 repeats throttling per minute.

Taylor Instrument Companies, Rochester 1, N. Y. (L-208).

New Naphthol Increases Fastness to Light

Naphthol AS-KB is said to give shades similar to those obtained with Naphthol AS-BS, but of greatly increased light fastness.

It is further claimed that colors derived from this new naphthol show a brighter blue tint. Naphthol AS-KB coupled with Fast Scarlet R produces a bluish pink possessing exceptional light fastness properties, according to the manufacturer.

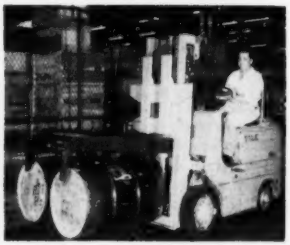
Pfister Chemical Works, Ridgefield, N. J.

For additional data, request item L-107, using business reply card on page 218.

Drum Handler Requires No Mechanical Connections

A horizontal drum handling device that can be attached to any industrial fork truck without removing the forks or making any hydraulic or mechanical connections is now available. Completely automatic, it is a self-contained unit that fits over the forks and is fixed to them with two screw-type clamps. One or two stand-

Attachment for fork trucks makes drum handling easy (Yale & Towne).



Yarn Tension Indicator

How the Brown Boveri thread tension indicator can be utilized to check yarn tensions on a spinning frame is shown in this photo.

For description of the instrument, see page 186 of TEXTILE INDUSTRIES for November, 1951.

Brown Boveri Corp., 19 Rector St., New York 6, N. Y.

For additional data, request item L-212, using business reply card on page 218.

ard drums can be picked up with the device by simply lowering it over them while the truck is slowly backing away.

Rear clamps are spring loaded and snap under the lip of the drum. When drums are lifted, gravity action locks clamping hooks in place. There is no load on the springs at any time, the manufacturer states. Depositing the drums is just as easy, it is claimed.

Safe and efficient. Loads will not drop with sudden stops, when traveling over a rough surface, or when truck channels are tilted.

Yale & Towne Mfg. Co., Phila. Div. 11,000 Roosevelt Blvd., Philadelphia 15, Pa. (L-211).

Combination Fungicide for Cotton Duck

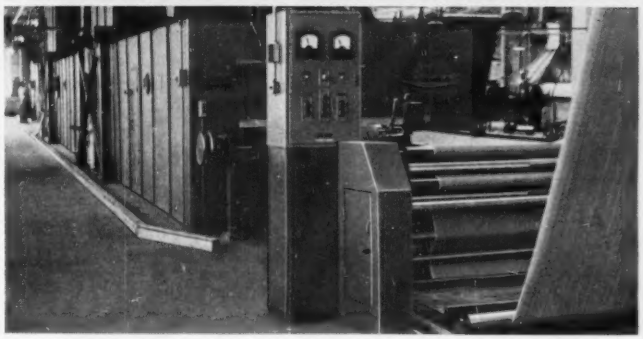
A combination fungicide now available provides mildew resistance to cotton duck used for tents, canvas containers, etc., in accordance with government specification MIL-D-10860.

This product, called Nuodex Copper QN-18%, is easy to incorporate in total treating compositions, the supplier states, since it is a readily

PROCTOR OVERFED PIN TENTERS

Guarantee Fabric Results THRU

★ CONTROLLABLE OVERFEED
★ ACCURATE GUIDING
★ BALANCED DRYING



Resin impregnated fabrics may be dried on the Proctor overfed pin tenter without danger of creasing or migration—and at the same time be delivered with the ultimate in shrinkage control. This relaxed drying which insures top fabric quality and a full hand is made possible by three features engineered into every Proctor installation. 1. An overfeed mechanism which makes it possible to overfeed fabric to pins in any percentage from minus 5% to plus 35% and have the cloth evenly and uniformly deposited. 2. A sensitive guiding mechanism which provides accurate guiding up to and in excess of 100 yards per minute. 3. A balanced drying system which assures maximum drying speed without fabric distortion.

Proctor overfed pin tenters are available in either the vertical type (Dalglish) or horizontal type (in cooperation with Winsor and Jerauld) for suitings, laces, tricots, specialty goods and standard fabrics. Write for complete information.

AN INVITATION TO PATENT HOLDERS

Have you patented equipment which you have developed for your own line of business that you would care to have developed, manufactured, or sold?

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PROCTOR & SCHWARTZ INC •
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Designers and Manufacturers of Automatic Blending and Stock Conveying Equipment • Carding and Garnetting Machines • Dryers for Stock • Yarn • Piece Goods • Nylon Setting

Just how good CAN you get?

It takes a whale of a golfer to shoot par for the course . . . but tournament *champions* shoot even *better* than par, by a few strokes. That "few strokes" improvement results from special attention to the fine points of the game.

In textile production, too, even *good* efficiency can be improved. For instance, it's entirely possible that a certain starch . . . perhaps even tailor-made to your own specifications . . . could contribute to an efficiency gain.

Why not call your Anheuser-Busch representative? He'll be glad to come and talk it over.

CORN STARCHES
DEXTRINES
GUMS
CORN SYRUPS

Phone or write

ANHEUSER-BUSCH, INC.

CORN PRODUCTS DEPARTMENT

ST. LOUIS

ST. LOUIS, MO. 721 PESTALOZZI | CHARLOTTE, N. C. 607 JOHNSTON BLDG. | NEW YORK, N. Y. 33rd & 12th AVE.

NEW Equipment AND MATERIALS

dispersible paste that flows at room temperature. It combines copper hydroxy naphthenate and copper 8-quinolinolate in one product.

Savings of time, labor, and expense involved in preparing the combination are advantages claimed for the new product.

Nuodex Products Co., Inc., Elizabeth F, N. J.

For additional data, request item L-103, using business reply card on page 218.

Polyacrylic Acid for Sizing Nylon

The production of Polyacrylic Acid (under the designation Polyco 437) as a base for nylon warp sizes, has been announced. According to the manufacturer, Polyco 437 offers a sizing base unexcelled for effectiveness and versatility for use on yarns for tricot knitting, spun nylon knitting and weaving.

The product is an aqueous solution of polyacrylic acid which is easily diluted with tap water and is easily removed after weaving by scouring. Adhesion to nylon is outstanding, it is claimed; also it prevents excessive soiling during processing of yarn.

America Polymer Corp., Peabody, Mass.

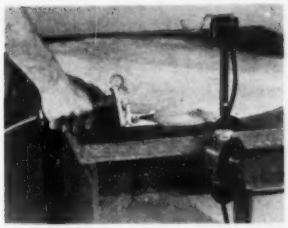
For additional data, request item L-104, using business reply card on page 218.

New Trimming Scissors Eliminates Operator Fatigue

A 50% reduction in trimming time is said to be possible with new heavy duty electric scissors, the Sciss-O-Matic.

Sturdy rubber-grip handles offer the operator a comfortable grip and permit guiding the cutter with ease. The rubber grip handle also aids in helping the operator cut a smooth straight edge. The Sciss-O-Matic is completely safe and easy to operate. The cutting scissors, itself, is made of the high quality tool steel.

Each standard unit of the Sciss-O-Matic comes completely equipped with ½ hp single phase 110-volt, 60-cycle motor accomodating most materials easily. The entire unit consists of one scissors head unit, motor with clutch mechanism, long driving cable, "C" clamp fitted with micro



The Sciss-O-Matic (Ginsberg).

switch and auxiliary 4" switch box and wiring ready to plug into nearest outlet.

Ginsberg Machine Co., Inc., 224 Fifth Avenue, New York, N. Y.

For additional data, request item L-110, using business reply card on page 218.

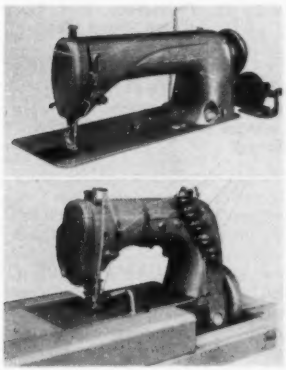
Two New Machines by Union Special

Union Special Style 52900 A machine for simultaneous seaming and overedging of garment pockets and similar articles, has now been superseded by Style 52900 BA. This three-needle machine produces the exclusive "Safety Stitch," seam Type SSa-2, with a stitch range of 9 to 14 per inch.

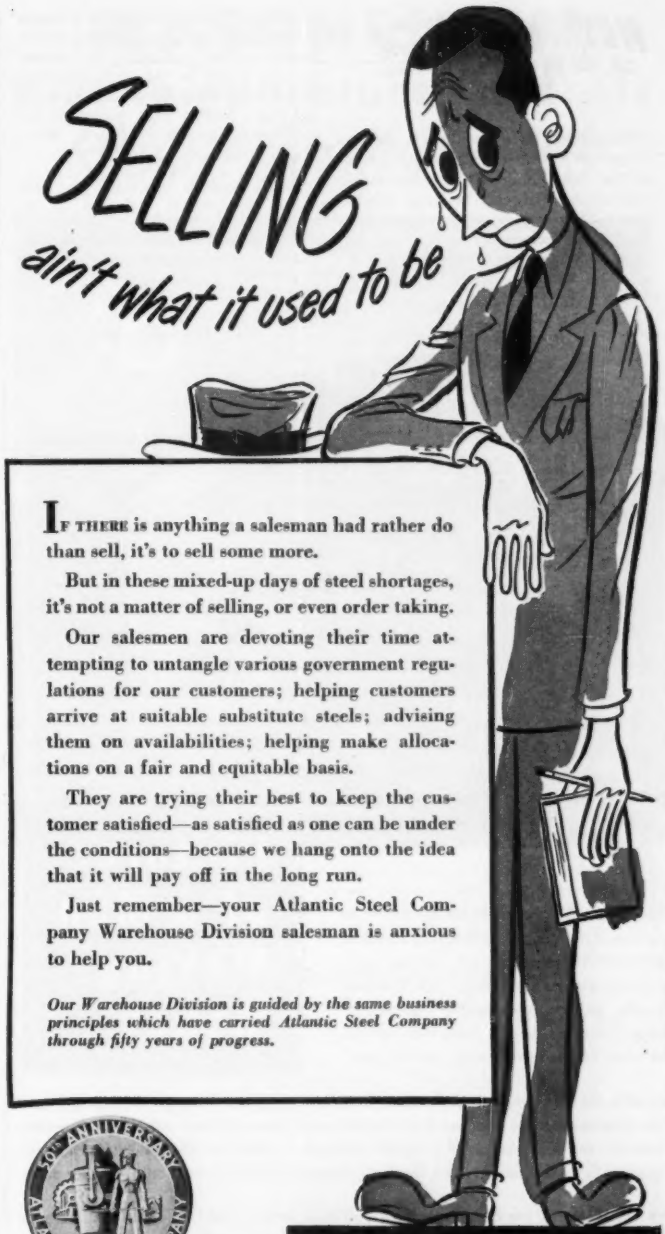
One of its most important features, the manufacturer claims, is the automatic lubricating system. Improved looper throw-out mechanism, Allen head set screws in the handwheel, looper drive eccentric coupling, feed lift eccentric and looper avoid eccentric, and new seize-resistance main bearings that provide an important safety factor for preventing "freezing," are other features cited.

Improvements in both design and

Union Special Class 61400 machine (above) and Style 52900 below.



SELLING ain't what it used to be



IF THERE is anything a salesman had rather do than sell, it's to sell some more.

But in these mixed-up days of steel shortages, it's not a matter of selling, or even order taking.

Our salesmen are devoting their time attempting to untangle various government regulations for our customers; helping customers arrive at suitable substitute steels; advising them on availabilities; helping make allocations on a fair and equitable basis.

They are trying their best to keep the customer satisfied—as satisfied as one can be under the conditions—because we hang onto the idea that it will pay off in the long run.

Just remember—your Atlantic Steel Company Warehouse Division salesman is anxious to help you.

Our Warehouse Division is guided by the same business principles which have carried Atlantic Steel Company through fifty years of progress.

50th ANNIVERSARY ATLANTIC STEEL COMPANY 1901 - 1951

Quality Steels products of Atlantic Steel DIXISTEEL

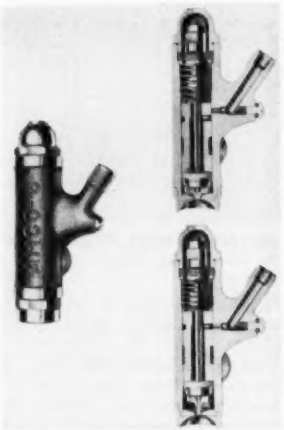
WAREHOUSE DIVISION
Atlantic Steel Company
ATLANTA, GEORGIA • EMERSON 3451

performance have been made on the Class 61400 lockstitch machines. One of the most important of these is the introduction of cool-running needle bearings to reduce rotary hook and clothplate temperatures.

Another feature is the addition of a stitch length indicator of the comparison type, using letters as a means of reference to predetermine stitch lengths. The indicator is viewed through a slot in the clothplate in a readily visible location. The viewing slot has a pointer built in close to the indicating dial for accurate stitch length settings.

Union Special Machine Co., 407 North Franklin St., Chicago 10, Ill.

For additional data, request item L-109, using business reply card on page 218.



No. 6 automatically self-cleaning atomizer (American Moistening).

Self-Cleaning Atomizer

Superior spray quality combined with economy in air use are advantages cited for the No. 6 automatically self-cleaning atomizer. According to the manufacturer, it is easier to maintain, more rugged to withstand accidental abuse, and resistant to corrosion, erosion, and mechanical wear. There are fewer parts to wear, therefore maintenance cost for the new atomizer is less.

Each time the atomizer is shut off, either manually or by automatic humidity controller, motion of the water jet carriage moves the atomizer's center pin through its self-cleaning cycle, assuring the continued maintenance of its spray quality. Both air and water orifices are cleaned.

Unit conforms to standard specifications and is interchangeable with Amco atomizers No. 5 and No. 4 and many others wherever at least 20 psi air pressure is maintained and water lines are under gravity control.

American Moistening Co., 260 West Exchange St., Providence, R. I. (L-207).

Device Permits Replacement of Fluorescent Lamps with Only One Hand

A simple device now on the market channels the terminal pins of fluorescent lamps into the sockets, making lamp replacement a one-hand job, and then locks the lamp in the sockets. Designated "Lok-Gyde," it reduces the time required for lamp replacement and guards against the danger of lamps falling when dislodged by vibration or other causes.

Picture of a Man Making Money

This loom will be back in production in a fraction of the usual time, because Jarrett's META-CLEAN dissolves oil, grease, dirt, size deposits, etc., amazingly fast. It works equally well on other textile equipment. Saves labor, too, because one man can do the work formerly requiring several men.

Jarrett's META-CLEAN actually costs less than slower cleaners because it is effective even when diluted with 20 parts water. Better to use, too — no smell — no fire hazards — and absolutely harmless to skin. Equally effective when sprayed, brushed, wiped on, or for immersion of smaller parts.

We will welcome the chance to show you how Jarrett's META-CLEAN will increase your production, save labor, and reduce your cleaning material bills.

Satisfaction Given — Not Promised

CECIL H. JARRETT COMPANY, INC.
Manufacturer & Distributor of Chemicals and Supplies, Newton, N. C.

Attachment may be quickly slipped over any standard 15 to 40-watt fluorescent socket, becoming a permanent part of the fixture. No tools required for installation. Operation of lamp and fixture is not affected.

Edison Electrical Co., 355 Weybosset St., Providence 3, R. I. (L-203).

Volatile Substance Prevents Corrosion of Metal Parts; No Coating Required

An economical method of preventing rust and corrosion of metal parts, in the presence of air and moisture, is provided by "VPI" crystals, a slightly volatile amine nitrate now available. Being volatile, the crystals give off vapors which are carried by convection and diffusion to all surfaces of the metal, where they condense to provide a thin protective layer. The powder-like substance can be applied by placing it in a package enclosing the parts to be protected, by blowing it into an area to be protected, by putting it into a water or alcohol solution, and covering metal parts in tote boxes.

Shell Oil Co., 50 West 50th St., New York 20, N. Y. (L-204).

Up to 60 Counts per Second with 100% Accuracy

Designed to cover counting ranges above those possible with electromechanical counters and below those in which scalers are normally required, a new step-motor impulse counter provides 100% accuracy up to 60 counts per second. Engineers responsible for development of the device visualize that it might be utilized for such applications as counting flaws in fabric at process speed. At counting rates in excess of 100 counts per second a high degree of accuracy is provided, it is claimed.

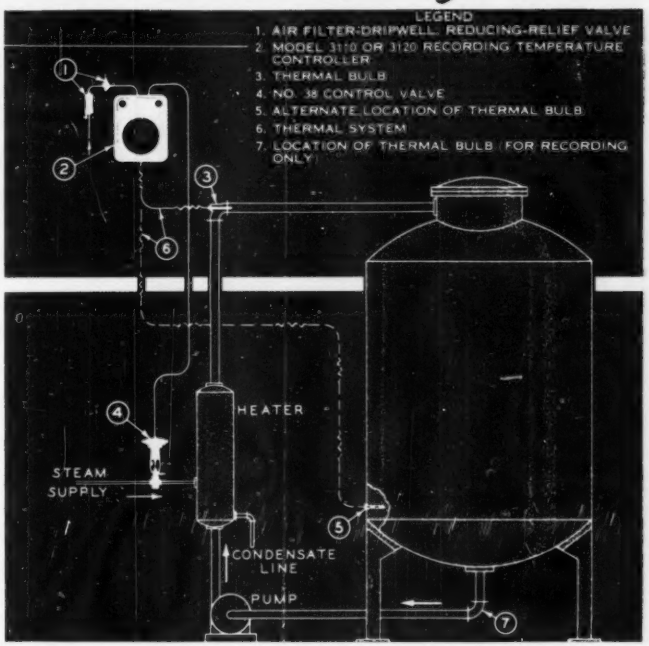
General Electric Co., Special Products Div., Schenectady 5, N. Y. (L-205).

High speed counter (G.E.).

MASONEILAN

Kier Temperature Controls

Reduce Costly Rejects



Masoneilan Kier Boiling Temperature Controls provide definite savings in steam consumption and operator's time by maintaining the liquor circulated in the Kier at constant temperature. The result is uniform bleaching, reduction in rejects and uniform high quality finished product.

MASONEILAN ADVANTAGES

- **Proper Measurement of Temperature**
  Holds the temperature within allowable limits. There is no guessing.
- **Cuts Production Cost**
  Substantial saving in operator's time and steam consumption.
- **Provides Permanent Records**
  Instrument controls and records the temperature of the liquor circulating through the Kier, furnishing a true record of every boil, boiling time and elapsed time in bringing Kier up to temperature.

Find out for yourself how Masoneilan Textile Controls can provide definite savings for you in your own mill.

MASONEILAN

MASON-NEILAN REGULATOR CO.

1194 ADAMS STREET, BOSTON 24, MASSACHUSETTS

Sales Offices or Distributors in the Following Cities: New York • Syracuse • Chicago St. Louis • Philadelphia • Houston • Denver • Pittsburgh • Cleveland • Cincinnati • Tulsa Atlanta • Los Angeles • San Francisco • Salt Lake City • El Paso • Boise • Albuquerque Detroit • Charlotte • Appleton • Corpus Christi • New Orleans
Mason-Neilan Regulator Co., Ltd., Montreal and Toronto

DARNELL CASTERS

Choose just the right caster or wheel for your needs from the Darnell line of nearly 4000 types. These precision made casters and wheels will help you speed up production . . . will pay for themselves many times over.

FREE Manual

DARNELL CORP LTD 60 WALKER ST NEW YORK N Y
LONG BEACH CALIFORNIA 36 N CLINTON CHICAGO ILL

A SAVING AT EVERY TURN

GENUINE ALLEN WOODEN HIGH-SPEED WARPER BEAM HEADS

have important advantages

Based on 35 years of research and experience, Allen heads are built of heavy layers sawed from solid lumber, not thin rotary-peeled slices. Their scientifically balanced construction is responsible for their ability to stand up, as demonstrated over the years.

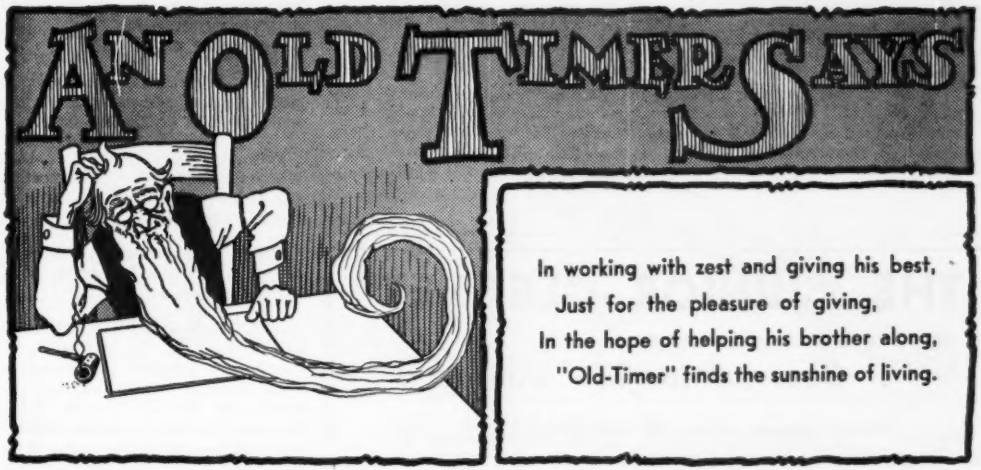
1. **LONG LIFE** — practically unbreakable, either in use or in shipment.
2. **RESILIENT** — they are designed to withstand side stresses of yarn build-up and will not take a set.
3. **TRANSPORTATION** — also designed to take the rough handling of shipping. Claims for head breakage eliminated.
4. **HIGH SPEED** — precision made and balanced. Successfully used on any high speed warper unit.

THE BEST BUY IS THE BEAM HEAD THAT HAS PROVED IT CAN TAKE ROUGH HANDLING AND GIVE LONG LIFE AND USEFULNESS.

ALLEN BEAM COMPANY
High Speed Warper Beams
Warper Beam Heads
Loom Beams
Adjustable Loom Beam Heads

General Offices — 151 River Road
New Bedford, Mass.
Representatives in all Textile Localities
and all Principal Countries of the World.

"GOOD WARPS ARE MADE ON GOOD BEAMS"


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Random Thoughts

Pay According to Value

NO EMPLOYEE is ever exactly equal to another employee, yet many textile mills pay all weavers the same rates. The weaver who gets 97% production gets no more than the weaver who gets 94%. The weaver who makes 10% seconds gets just as much as the weaver who makes 2%. So it is throughout all the departments.

Now don't say the unions will not allow graduated rates. OLD-TIMER killed that argument when he told about unionized textile mills and other unionized industries where the most efficient operatives were paid the most money.

Here is one example: "D" company has an agreement with the union which establishes rates for normal operation of operatives; it also sets a rate of premium for those operatives who operate above normal. To insure that the rate is fair and acceptable to the operative, union members are trained in time-study procedures and collaborate with the company time-study men.

Now will you explain why some textile mills do not pay those operatives more money who make more money for the mills?

Criticism!!! There comes a time when the operating executive must criticize, must tell an operative he must not do so and so. However, there are two ways to do this.

One is the "bawl out" method some men use when they are mad (in the first place you should never attempt to correct an employee when you are mad—wait until the next day).

The other and much more effective method is to use some compliments with your criticism. Tell the employee some things he has done that you appreciate and then criticize him for what you do *not* appreciate. Every time that fellow starts to do what you criticized him for he will hesitate because he will also remember the compliment you paid him.

We have also heard quite a few people say they welcome criticism, but what they really mean is that they are broadminded enough to realize that criticism is valuable to any person who will really try to profit by it.

Brains! The More You Use—the More You Have

MUSCLES develop with use. Anyone knows that if a man lifts a 5-lb weight five times each day for ten days, he can lift a six or seven pound weight five or probably eight times. Yes, it is very true that muscles develop with use.

And so do brains.

That is the idea OLD-TIMER is trying to get you to realize.

The more you use your brains, the more brains you have. The more knowledge you put into your brain, the greater is that brain's capacity. *Nothing else on earth has that quality*—that the more you put into it, the more it will hold.

Personal NOTES
ABOUT MEN YOU KNOW

T. G. Roche, formerly general superintendent, has been made vice-president and general manager of Limestone Manufacturing Co., Gaffney, S. C.

After serving more than twenty years as vice-president, **Frederick W. Thomas** has retired from Clark Thread Co., Inc., and J. & P. Coats, Rhode Island, Inc., but will be available in a technical advisory capacity. **Emerson M. Bullard** has been placed in charge of the southern mills.

Formerly vice-president and general manager, **Louis D. deLoach** has been named executive vice-president of Glendale Mills, Inc., a subsidiary of J. L. Stifel & Sons, Inc.

Leslie E. Schildein was recently made director of personnel for the southern mills of Kendall Mills.

Formerly with Mooresville Mills, **William B. Thomas** is now executive vice-president and general manager of Brodnax (Va.) Mills, Inc.

Milton M. Stuart has resigned as executive vice-president of M. Lowenstein & Sons, Inc.

G. T. Gardner has been promoted to a position on the staff of J. C. Cowan, Jr., president of Burlington Mills Corp. He will have staff responsibility for the manufacturing operations of the Cramerton, decorative fabrics, and cotton yarns division. **James D. Barbee,** assistant division manager, has taken over Mr. Gardner's former position as division manager.

C. M. Epley, of the supervisory staff of Monarch Mills, has successfully completed LaSalle Extension University's course of training in foremanship and production methods.

Edward S. Rudnick, with the firm for two and a half years, has been promoted to director of research and laboratory at Wamsutta Mills. **Stuart Hunter,** former director of laboratory, will remain as laboratory head under Mr. Rudnick.

Warren M. Holt has joined the department of engineering at the New Bedford Textile Institute as instructor in mathematics and physics.

George H. Murphy, president of Personal Products Corp., and **Wayne J. Holman, Jr.,** president of Chicopee Mills, Inc., have been appointed to the board of directors of Johnson & Johnson.

Charles E. McDaniel, with the National Cotton Council since 1946, has been named Mississippi Valley area supervisor, field service, for the Council.

Brig. Gen. Howard L. Peckham has been made deputy to Maj. Gen. George A. Horkan, the Quartermaster General. **Brig. Gen. Robert P. Hollis** will replace General Peckham as commanding general, New

THE "JUNIOR CLEANER"

(Pat. Pend.)

Does a "Man-Size" Job!

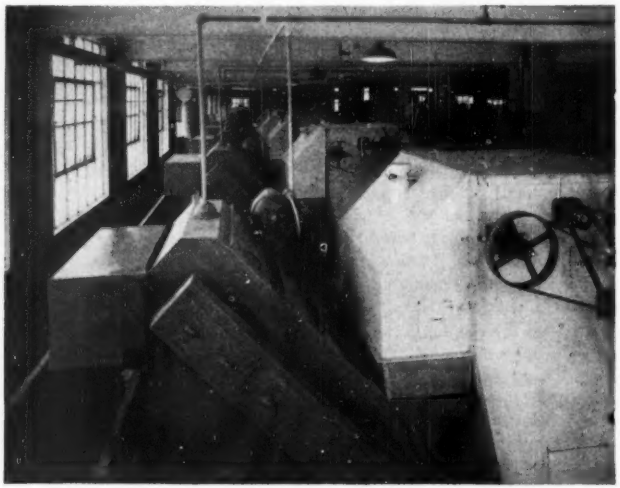
For use between hopper and conveyor.

Delivers to regular cleaning line.

Completely opens and pre-cleans small amount of cotton delivered to each hopper in battery, so that machines in regular cleaning lines do *more cleaning* with *less staple breakage.*

Requires 43" between hopper and conveyor table.

PROVED BY TEST



Shown above is a complete installation of "JUNIOR CLEANERS" in opening room of an Alabama mill.

Manufactured by

GASTONIA TEXTILE MACHINERY CO.

GASTONIA, NORTH CAROLINA

York QM Procurement Agency. New assistants to the Quartermaster General are **Brig. Gen. Arthur L. Marshall,** formerly chief of the QM Budget and Fiscal Section, and **Brig. Gen. Ira K. Evans,** formerly Deputy QM, European Command.

Chicopee Mills, Inc., has announced the appointment of **Bart**

Mr. Bossidy

Bossidy as manager of the rayon division.

Stephen W. Bastow, with Nashua Manufacturing Co., and Textron, Inc., since 1901, has retired as superintendent of the Textron dyeing and finishing plant at Nashua, N. H.

N. Cary Hayward has resigned as secretary-treasurer of Verney Corp. **Eldon A. Hopkins** has joined the Manchester division as overseer of the spinning and carding departments, and **Lionel M. Lavigne** is now overseer of warp preparation, winding, and throwing. Mr. Hopkins was formerly with Mohawk Mills, and Mr. Lavigne came from Newmarket Manufacturing Co.

Succeeding Max Weinberg, deceased, **Monroe A. Adler** has been named president of Harrison Mills, Inc., East Newark, N. J., and Granite Fabrics Corp., New York, N. Y.

Ellsworth D. Baker, formerly with Jaffrey Mills, is now superintendent of the newly established Rochester Mills, East Rochester, N. H.

John Mebane has joined the firm of Dudley, Anderson & Yutzy and will handle textile news for the Textile Mills Information Service in Georgia and Alabama. Mr. Mebane, former business news editor of the Atlanta Journal, succeeds **Ed Callaway,** who has joined the staff of the Jacksonville (Fla.) Times Union.

Professor Walker Bleakney, on the faculty of the physics department at Princeton University, will serve as consultant on physical research prob-

REGULAR Inspection and PLANNED Replacement of Worn Saddles

Institute a program of inspecting each frame twice a year. Worn saddles, like travelers, must be replaced on a regular schedule. Mills report these:

Proven Advantages

- ✓The program pays for itself
- ✓Yarn imperfections are reduced, efficiency increased
- ✓Newest type saddles gradually replace less efficient models
- ✓Incorrect saddles, faulty weighting installations are eliminated
- ✓Spinning frames are rejuvenated without extensive shut-downs
- ✓Damaged top rolls eliminated
- ✓Maintenance costs are lowered

Ask how the newest Dixon saddles fit into a regular replacement schedule.

DIXON LUBRICATING SADDLE CO.
Established 1876

Southern Sales: R. E. L. Holt, Jr. & Associates, Box 1474, Greensboro, N. C. Covering the Carolinas and Virginia
J. W. Davis, Mfg'rs. Agent, Box 745, Columbus, Ga. Covering Georgia, Alabama, Mississippi, Louisiana and Tennessee
Northern Sales: W. R. Potter, Sales Manager, Dixon Lubricating Saddle Co., Bristol, R. I. Covering New England

Personal NOTES ABOUT MEN YOU KNOW

lems to the Textile Research Institute. **Dr. Ann Palm** has also joined the Institute as a member of the physical chemistry section, and **Frank Meyer** will continue the work initiated by Dr. R. O. Steele and Mrs. Elsa Hambraeus on determination of crystallinity using x-ray diffraction techniques.

Webb Durham, formerly manager of Burlington Mills Corp.'s tricot division, has formed a new textile manufacturing company to be known as Webco Mills, Inc. Fine gauge tricot machines and equipment have been ordered for installation in a building to be constructed either in Greensboro or Burlington, N. C.

The South Carolina Textile Manufacturers Association has announced the selection of **J. Harvey Frick,** safety supervisor of Greenwood (S. C.) Mills, as chairman of the personnel division.

Osbert Hughes, formerly with Wellington Sears Co., and before that with Fieldcrest Mills, is now in the research and development department of Dan River Mills.

Raymond Small is now superintendent at Packard Woolen Mills, Ashland, N. H.

Obituaries

John E. Hull, president of Victor Ring Traveler Co., died October 25 at the age of 78. He had been with the firm since 1899.

Hugo Hemmerich, vice-president of the Berkshire Knitting Mills, died suddenly on October 22 at the age of 63.

Charles M. McLeod, chairman of the executive committee of Iselin-Jefferson Co., Inc., died recently.

Funeral services were held on October 23 for **Charles J. Potter,** 51, southern manager of E. J. Feeley Co., for the past fifteen years.

Carleton E. Bauldry, 56, associated with Clark Thread Co. for the past thirty years, died unexpectedly on October 10.

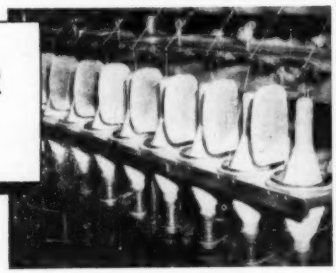
Lawrence MacRae, 73, died recently in Concord, N. C., after several years' illness. He was in the textile business for a great many years, having at one time been an executive at Edenton Cotton Mills and Inverness Cotton Mills.

Albert Leitstein, 45, general manager of the featured fabric finishes department of Warwick Chemical Co., division of Sun Chemical Corp., died on September 28 of a heart attack.

F. Robbins Lowe, vice-president and southern agent for Saco-Lowell Shops, died on October 29 after an illness of several months. Mr. Lowe was 52 years old.

Benjamin B. Gossett, 67, died suddenly on November 13. He was the former president of Gossett Mills Co., retiring when the mills were sold to Textron, Inc., several years ago. Mr. Gossett was a founder of the former Cotton-Textile Institute, Inc., and served as president of the N. C. Association of Cotton Manufacturers and the former American Cotton Manufacturers Association.

SPIN BIGGER PACKAGES



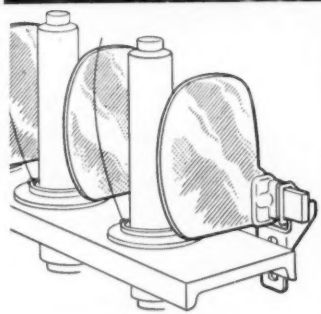
ON YOUR PRESENT FRAMES WITH LARGER RINGS, LONGER TRAVERSE and

WHITEHEAD

Permalite

ALUMINUM ALLOY

SEPARATOR SHIELDS



24 different shapes and sizes

Whitehead Permalite Shields are strong as steel but many times lighter. They mount right on the ring rail and can be flipped back for doffing. Available in a complete range of shapes and sizes for any spinning or twisting need—tall, slim ones; short, broad ones; big ones and little ones. And with all their superiority, they cost no more!

EASY TO INSTALL—Simply drill and tap ring rail. We supply the shields and bar drilled to your gauge and ring count, together with proper support hangers and all screws and washers.

EACH JOB ENGINEERED—When ordering specify rail width, thickness of back flange, gauge and number of rings in each rail on one side only, as 24-22-22-22-24.

ONLY WHITEHEAD PERMALITE SHIELDS OFFER THESE ADVANTAGES

- Fewer ends down; some mills report 27% less
- Use of lighter travelers which reduce power costs, wear of rings and travelers
- Solid polished blades (not slotted) which cause less wear on yarn, collect less lint and fly, resulting in smoother yarn
- Less vibration, wear of cams, worm gears and lifter-rod bearings
- Reduction of live weight—from as much as 300 lbs in old slotted steel shield assemblies to as little as 35 lbs per frame
- No attention after installation

OVER 4,000,000 IN USE BY MORE THAN 350 AMERICAN MILLS

Immediate delivery from stock on all items

PATENTED AND MANUFACTURED BY
WHITEHEAD ENGINEERING CO.
522 WEST PEACHTREE STREET, N.W.
ATLANTA 3, GEORGIA

EXCLUSIVE DISTRIBUTORS
Meadows Manufacturing Co.
BOX 8254 • ATLANTA, GEORGIA

*** SEE YOUR MEADOWS MAN**
ALABAMA, GEORGIA, MISSISSIPPI
Sam Hegg, Box 4354, Atlanta, Ga.
SOUTH CAROLINA
J. P. Coleman, Box 1351, Greenville, S. C.
NORTH CAROLINA
Walter Coleman, Box 722, Salisbury, N. C.
TENNESSEE
Ed F. Brown, 417 Dale Avenue, Knoxville, Tenn.
NORTHERN REPRESENTATIVE
Matthews Equipment Co., 83A Broadway, Providence, R. I.

Edward E. Poor, Sr., 89, retired president of Passaic (N. J.) Print Works, died on October 7. He was the father of Edward E. Poor, Jr., and Arthur G. Poor, managing owners of Standard Bleachery & Printing Co., Carlton Hill, N. J.

Howard W. Pound, 55, executive of the American Air Filter Co., Inc., Louisville, Ky., died on October 10.

W. H. Randolph, Sr., age 91, the oldest man in the starch business and for many years associated with A. E. Staley Manufacturing Co., passed away October 20 at his home in Rahway, N. J. He was the father of W. H. (Bill) Randolph, Jr., who serves as southern manager of bulk sales for Staley. Mr. Randolph, Sr., was well known in textile circles and sold the first bag of starch for Staley.

Funeral services were held October 3 for **J. Ambler Williams,** who died at his Norristown, Pa., home after a long illness. Mr. Williams was secretary of James Lees and Sons Co.

Richard E. Jahr, secretary-treasurer of Standard Chemical Products, Inc., Hoboken, N. J., died suddenly of a heart attack on October 17. Mr. Jahr was 52 years old.

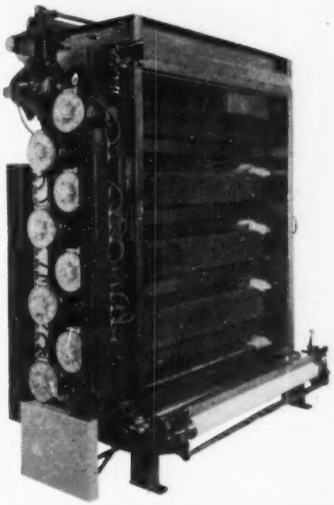
Electronic Beam Let-Off

(*Continued from page* 122)
diameter are automatically compensated for.

As tension momentarily changes, through the action of the knitting machine, a dancer contact on the tension bar opens and closes. The dancer contact, connected to the low-energy grid of a single Thyratron tube, triggers the power circuit of the beam motor. The fluttering action of the tension contacts gives rapid on-off control of the motor voltage. Thus, the motor operates at a speed to maintain proper tension.

When it is necessary to stop the knitting machine for any reason, a fast-acting dynamic braking system provides quick stops, which, in conjunction with dynamic braking on the main knitting machine motor, keeps cloth stop marks to a minimum. A pulse of d-c current is forced through the motor windings, stopping the motor in one or two revolutions.

This is the Brush You're Looking for



IT'S THOROUGH • IT'S FAST • IT'S SAFE • IT'S VERSATILE

HERMAS' NEW BRUSH

—Completely removes all mote, leaf, and dirt from the cloth and, by a powerful vacuum system, carries the brushings instantly away from the machine, using individual suction at each brush roll and an exhaust stack. No brushings or dust is left anywhere to remain in the cloth after brushing.

The drive

—*is synchronized* to operate this brush at the same speed as Hermas AV shear—up to 150 yards a minute if desired.

—*Individual motors on the eight brush rolls* stop and start simultaneously. No danger of individual rolls getting out of control and damaging the cloth.

—*Calibrated pressure controls* make it possible to get heavy or light sanding or brushing at top or bottom of the machine if desired.

Ask us for the 14 points of Hermas brush superiority in construction and brushing service.

HERMAS MACHINE CO.

America's Only Exclusive Specialists in Clothroom Operation

HAWTHORNE NEW JERSEY

REPRESENTATIVES:

Carolina Specialty Company, Charlotte, N. C.

Robert R. Simpson, 95 Sheldon Street, Wyckoff, N. J.

EXPORT DIVISION: Francis H. Love & Son, 57 William St., New York, N. Y.

Ross Whitehead & Co., Ltd., Toronto and Montreal, Canada

Unisel, Ltd., Manchester, England

*(Correspondence in foreign languages invited)

Save "Man Hours"

Every time you use Selig's

FLOR-O-SEAL FLOR-TONE

Dry Maintenance Method

Man-hours mean more today than ever before. Penetrating FLOROSEAL keeps moisture, oil and grease from damaging floors while FLORTONE prevents dirt and grit from being ground into the floor surface. This sealer-maintenance method makes every man-hour count for cleaner, safer, brighter and longer-wearing floors at lower cost.

The Selig Company

Manufacturing Chemists
Since 1896

selig

Call the Selig man nearest you:

ATLANTA NEW ORLEANS
DALLAS HOUSTON

The FLOROSEAL-FLORTONE method of "dry maintenance" is proven and recommended by maintenance men who count on quality to cut costs.

What the TEXTILE MILLS *are doing*

The American Legion's annual citation for outstanding contribution in the employment of handicapped persons was awarded to **Dan River Mills, Inc.** The presentation was made by William M. Tuck, former governor of Virginia.

As soon as buildings now under construction at Clemson and Seneca, S. C., are completed, **Utica & Mohawk Cotton Mills, Inc.,** will discontinue its operations at Utica, N. Y., and move the cotton mill and bleachery to the southern sites. Executive and administrative offices are expected to be located at Clemson early in the new year. The property in Utica is being sold.

Land has been donated to the town of Draper, N. C., by **Fieldcrest Mills** for erection of a modern, fireproof town hall. The property has approximately 90 feet frontage with a depth of more than 100 feet.

Employees and their families were recently entertained by the Dwight division of **Cone Mills Corp.** at a program and barbecue dinner. Approximately 9000 were present. Principal speaker at the event was Herman Cone, president of the corporation.

Textron, Inc., is discontinuing production of blankets and wide sheetings, necessitating the closing of its Jackson Mill at Nashua, N. H., according to reports. Negotiations are under way for the sale of this unit.

A screen-printing plant for textile fabrics will be operated by the recently organized **Sirroco Screenprints, Inc.,** New Haven, Conn. The new company is a subsidiary of Guider Specialty Co., textile machinery.

Joseph Bancroft & Sons Co., has plans for a one-story top addition to building No. 44 at its mill in Wilmington, Del.

A one-story addition, for warehouse service, is under construction by **Spalding Knitting Mills,** Griffin, Ga.

Plans are under way for construction of a woolen and worsted mill near Marble, N. C., by **Peerless Textiles, Inc.,** an interest of **Peerless**

The adjustable handle makes it possible to scrub and wax polish in congested places where hand cleaning had been necessary before — around and under machines, counters, desks, lockers, etc.

Operator can raise or lower handle to any angle within an 80 degree arc and shove the Lawlor under any equipment where there is at least a 9½ inch opening and as far back as 4½ feet.

Three Models— a size to suit every need

ANOTHER POPULAR LAWLOR

The Model 20-D is designed for large areas. It does everything in one operation: deposits clean water over the soaped floor, a 19" revolving brush scrubs it thoroughly; then a rubber squeegee mops up the dirty water, which is vacuum pumped into a second tank. The Model 20-D is only 22" wide and can be used around machines and equipment. The nice thing is that one person can easily operate it.

MOP WRINGERS

Quality built of all steel with perforated rolls. Foot lever operation. Made for one or two pails.

MOPPING TANKS

Made of heavy galvanized steel with welded seams. Two compartments, each with shut-off. Foot-pressure wringers. 30 or 40-gallon capacity.

All Lawlor Equipment is sold and serviced by local Janitor Supply Houses

121 N. Aberdeen St., Chicago 7, Ill.

S. C. LAWLOR CO.

Write for Catalog of complete line Quality Floor Eulpment for 50 Years

Woolen Mills. Rossville, Ga. It is expected that approximately 300 persons will be employed.

A knitting mill will be operated at Mount Airy, N. C., by the recently organized **Ridgewood Hosiery Mills, Inc.** W. E. Allen of Mount Airy and Roy Booth, Greensboro, head the company.

To celebrate the company's attainment of two million man hours without loss-of-time accidents, employees of **Cleveland Cloth Mills,** Shelby, N. C., and their families were entertained on October 13 by the company at a barbecue and square dance.

Arrangements have been concluded for the municipality of Holdenville, Okla., to build a one-story mill, totaling about 50,000 sq ft floor space, to be occupied under long-term lease by **Seamprufe, Inc.,** 412 Fifth Ave., New York, N. Y. It will be used for manufacture of nylon hosiery and tricot cloth, with the initial output to be given over to parachute cloth for the government.

Murdock Webbing Co., Inc., was recently chartered to take over and operate firm of the same name, with mill at 27 Foundry St., Central Falls, R. I. Webbings and kindred products will be manufactured.

Controlling interest in **Champlain Spinners, Inc.,** Whitehall, N. Y., manufacturer of fine yarns, has been acquired by Aetna Industrial Corp., New York, N. Y. New officers of the firm are Walter W. Weismann, president; French Campbell, executive vice-president, Theodore Belanger, vice-president; George R. Teich, treasurer, and James J. Devine, secretary.

Controlling interest in a nylon knitting mill at Newtownwards, County Down, Ireland, has been acquired by **Berkshire Knitting Mills, Inc.** A modernization program is under way, which will include installation of modern knitting machines of American manufacture as well as other equipment.

Max Levin, 1 Madison Ave., New York, N. Y., is attorney and representative for the **Greene Finishing Corp.,** incorporated to operate a textile printing and finishing mill.

East Braintree (Mass.) Finishing Co. has plans under way for a one-story addition to the mill.

Arthur J. Moher is president and treasurer of the recently chartered

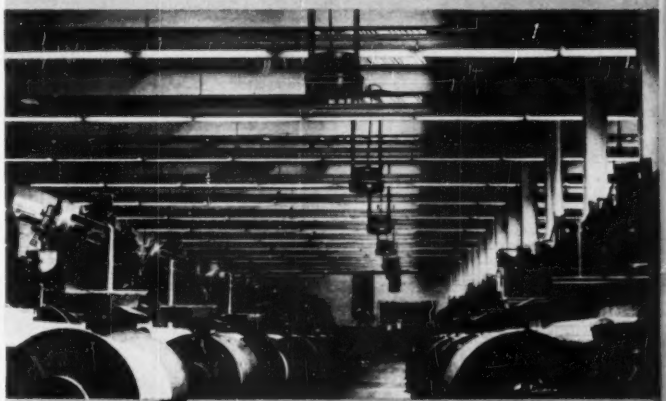
Depend on-

MODERN HUMIDIFICATION

by Walton —for every need!

SIMPLIFIED TROUBLE-FREE SYSTEMS FOR spot, booster or complete humidification

The modern Walton System provides dependable and accurate controlled humidity conditions which can be installed at minimum cost. Expensive duct work, air lines and compressors are eliminated as the Walton System needs only simple water and electrical connections. Uniform controlled distribution can be maintained in rooms with high or low ceilings. Filter protected models externally remove lint and dust, assuring efficient operation under normally adverse conditions. Check on the Walton System, now. Full engineering data is available without obligation.



Just Off the Press—New Textile Catalogs!

WALTON LABORATORIES, INC. 24
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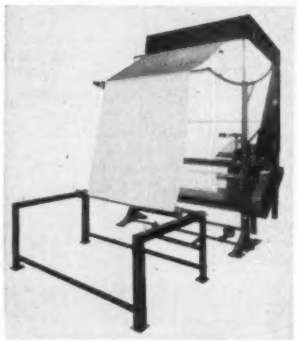

Model No. 200N

Sykes builds 20 different types of cloth inspection machines, each designed to do a particular job in your mill.

The Sykes No. 200 N with lighting encasement is a Constant Speed inspecting and measuring machine and is the ideal machine for inspecting cotton, rayon, nylon or plastic materials.

Sykes inspecting and measuring machines are standard equipment in many of the country's largest mills.

Let us know your requirements.

BUILDERS ALSO OF:

Burling machines Aluminum Tubing Rolls for Batching machines 1½" and 2" paper tubes. Steel Collapsible Rollers. And Inspection Tables to your own specifications.

Sykes Fdry. & Mach. Co.

Burlington, N. C.

P. O. Box 1178 Phone 4281

What the TEXTILE MILLS are doing

Palmetto Yarn Co., Inc., 10 High St., Boston, Mass., which will manufacture yarns of various kinds, including synthetic fibers.

Nutley Piece Dye Works, Inc., 126 Shore St., Fall River, Mass., was recently incorporated to operate a bleaching, dyeing, and processing mill. Philip Glotz is president.

An expansion program is under way at **Globe Knitting Works,** Allegan, Mich., which will include installation of equipment for increased capacity.

A one-story building, to be used as a pilot and experimental plant for production of fine worsted yarns, is being constructed at **Abbott Worsted Mills,** Wilton, N. H. Over 4500 spinning spindles and 2400 twisting spindles will be installed.

Two three-story additions to the mill are planned by **Spray (N. C.) Cotton Mills,** to be equipped for increased production.

A building at Moosic, Pa., formerly occupied by Marnet Hosiery Mill, Inc., has been taken over by **Garfield Worsted Mills, Inc.,** a subsidiary of Botany Mills.

Beacon Textiles of Puerto Rico, formerly operated as an interest of Beacon Manufacturing Co., Swannanoa, N. C., has been acquired by **Puerto Rico Rayon Mills, Inc.**

The former mill of Peace Dale Mills at South Kingston, R. I., has been acquired by **Palisade Piece Dye Works, Inc.,** North Bergen, N. J., and will be remodeled and equipped for increased production.

Swan Narrow Fabric Corp., Pawtucket, R. I., has changed its name to **Weave Rite, Inc.**

Sheer-Lon Hosiery Mills, Inc., Lamar, S. C., headed by P. E. and C. J. Herrin, was recently organized to operate a mill for manufacture of women's full-fashioned and seamless hosiery, men's socks, etc.

Superior Waste Co., Providence, R. I., has changed its name to **Superior Cotton Co.**

Henry Skinner is treasurer of **Velveteen Corp.,** 145 Thorndike St., Lowell, Mass., recently incorporated.

Orr SLASHER Cloth

With Special Chemical Treatment

Something New and Better

● Slasher Cloth is an important maintenance item in a cotton mill. With the introduction of ORR Slasher Cloth with Special Chemical Treatment, many of the problems which have pestered the slasher room foreman have been eliminated.

The slasher room foreman, in order to satisfy the superintendent and the cost department, must have available a Slasher Cloth that:

1. Dresses the yarn properly.
2. Holds its width. No shrinkage.
3. Maintains level production performance.
4. Starts fast — lasts long.

ORR Special Treated Slasher Cloth maintains uniform dressing properties, resists bacteria and steam degradation, maintains dimensional stability. Discuss your Slasher Cloth problem with your ORR representative.

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THE ORR FELT & BLANKET CO.

PIQUA, OHIO, U. S. A.

Industrial Woolens by Orr

STARTS FAST — LASTS LONGER

Source of "Tar Spots"

(*Continued from page* 123)

effect could be noted by these treatments, which are comparable to those employed in finishing cotton goods.

In the cotton plant, and in many other plants, there are small glands or sacs that appear as black specks. These can be readily seen in various parts of the cotton plant, such as in the stem, leaf, and boll, and when punctured in the green plant, show an oily or resinous looking substance varying in shade from yellow to amber and sometimes red or purple. As the plant dries, the contents of the sacs tend to become more viscous and eventually to solidify.

Stanford and Viehoever (Ref. 3), of the U. S. Department of Agriculture, have made a thorough study of the glands in the cotton plant. They include resin as one of the several components found in the sacs of the cotton plant and point out that the largest of these are found in the boll.

This laboratory has found that resin sacs from both field-dried and oven-dried cotton burrs resemble very closely the resin sacs found in mill trash. The likeness is both in appearance and in staining characteristics. In some trash known to be from 1948 cotton, the resin sacs had become quite solid and when cut in half under a microscope, showed centers that looked like clear, dark amber rosin.

Hereditary and environmental factors may have a definite influence on the size and nature of the constituents of the resin sacs. These factors are being further investigated by studying a number of varieties of cotton grown in different locations.

Stoddard solvent and chlorinated hydrocarbons, such as carbon tetrachloride, perchlorethylene, and tetrachlorethane (acetylene tetrachloride) have been used to test for, or to remove, tar spots. The contents of the small resin sacs, "resin-tar," behave similarly toward chlorinated hydrocarbons but are insoluble in Stoddard solvent. By way of further contrast, the "resin-tar" is readily soluble in the alcohols and in acetone,

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PRINTWEIGH STOPS ERRORS . . . Provides printed weight records—at the instant of weighing—assuring that the accurate indication of the Toledo dial will reach your accounting records without chance of human error.

Modern Toledos meet your needs today for *rapid, accurate* scales in all phases of production . . . to help you *control costs!*

These are the scales backed by Toledo's half-century of experience in Research and Engineering that has produced 80% of the major advances in scales during this time.

Toledo engineering has not only specialized in the direct design of weighing machine mechanisms, but also in the many associated fields such as electronics, plastics, metallurgy, optics.

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FLOOR SCALES
New recessed frame design fully guards against foreign material lodging beneath platform edge—choice of full or semi frame, with economical conversion for future needs. Double parallel link platform suspension means long life, accurate dependability. Send for bulletin 2406C.

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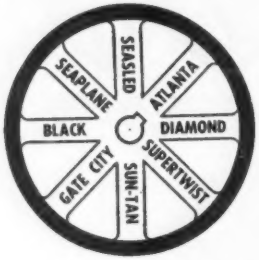
The Right BELT
makes any Drive RIGHT



Correct Use of the PROPER TYPE Leather Belt on any flat belt drive makes the drive RIGHT, increases machine production, reduces down time, lengthens belt life, and saves you money. On this simple truth our business has grown for over twenty-five years.

We can save *YOU* money by putting the *right* type drive on each one of your machines, the *right* type belt on each one of your drives and the *right* type strap on each one of your looms.

ATLANTA BELTING CO.
ATLANTA • GEORGIA
"SPECIALISTS IN BUILDING BELTS TO SUIT YOUR DRIVE"

"SOUTHERN MADE for SOUTHERN TRADE"

PRECISION FINISHED . .

Bobbins and Cones made from the finest New England Hard Rock Maple and selected Hard Mountain Beech and Birch.

All Dogwood Skewers.

WE ARE LICENSED TO MANUFACTURE TUBES FOR

NEW ERA SPINDLES

Only Independent Bobbin Manufacturer in the South

MONTICELLO BOBBIN COMPANY
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while asphalt is not.

"Tar spot" trouble is a broad problem and one which has been recurrent (Ref. 2 and 4). Several sources of contamination have been cited, these including asphaltic coated cotton bale ties, roofing asphalt, road tar thrown up into trucks during transportation, railroad cars, oil and grease from machinery, asphalt laminated paper used in the lining of railway cars and in packaging of starch and other raw materials, and cotton pickers' bags waterproofed with asphalt. Of the various sources of asphalt cited, the latter two are probably the most important.

It is not suggested that the "resin-tar" is a primary or principal source of contamination, but it should not be overlooked as a contributing factor.

References:

(1) Confidential Research Report No. 27, July 1950, released by the Institute of Textile Technology, Charlottesville, Virginia, to the National Cotton Council for public use.
(2) Textile Industries 115; 110 A-D, October 1951.
(3) Stanford and Viehoever. J. Agr. Res. 13; 419-37, 1918
(4) Textile Industries 115; 77-79, August 1951.

Looping Ladies' Hosiery

(*Continued from page* 171)

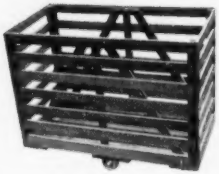
them to be weak.

Installing Needles. A good tip for putting in a new needle is to have the needle at the farthest end of its forward thrust. After having set the needle in relation to the slope on the point, then take a length of the same thread used in the needle and pass it between the needle and the point. The thread should move freely and not bind between the needle and the point. If the thread does bind, the stitches will become damaged sometime during the looping operation. The points must be kept in good condition and a dial ring should be replaced when necessary and not left to run at the expense of making menders and bad work.

If the fixer does his work conscientiously he will take a second look when trouble develops.

Looping Lines. It is important to have correct looping lines in

EXCEL



No Rust... No Snagging With Excel #600 Slatted Conditioning Trucks

Brass screws and cadmium plated bolts eliminate any possibility of rust. Because they are fastened from the outside they also insure against snagging. The Excel No. 600 is constructed of highly polished cypress or maple and finished with two coats of heat and acid resistant Tropelite to form a durable snag-proof surface. Slatted sides, ends and bottom permit perfect saturation and drainage.

Casters are securely bolted to bottom of truck.

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EXCEL
Textile Supply Co.

"Excel Trucks Excel"

LINCOLNTON, NORTH CAROLINA

the hose. It pays to have the overseer of knitting to take the stitch glass and check up to see how well the courses are being formed and to see that the number of courses per inch is the same each week on each machine. A dozen stockings should be taken from each machine weekly and looped by an expert looper. The looper's suggestions should be attended to promptly—not left to chance and never carried out. The knives on loopers do not rise of their own accord and when the loose course loops are too loose, the knives simply cut the long loops off, thereby making menders. Sometimes extra thread or waste is bound into the chaining as the needle forms the stitches, and poor quality work is produced.

Good working conditions should always be provided, including good lighting, and a minimum of disturbing factors. Unnecessary visiting by persons in the department, excessive talking, and nonsense also must be discouraged. Some girls do not like to be bothered while they are at work.

It is important to have the good will of the employees to get the best results and have orders executed in good faith. It pays to pass around a basket of soft drinks once in a while. The operatives will not forget it, even if they leave to work in another shop. Chances are they will tell others how well they were treated.

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- *RESIN BONDED LAMINATED HARDWOOD BARRELS.*
- *STEEL SHAFTS — PINNED TO BARREL — NEVER WORK LOOSE.*
- *SHAFTS TURNED TO WITHIN .005" TOLERANCE.*

AVAILABLE IN CLEAR OR GRAY LACQUER FINISH.

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P. O. BOX 1351 GREENVILLE, S. C.

HOW ANDERSON SHIELDS INCREASE SPINNING ROOM EFFICIENCY

Spinning rooms using Anderson Shields save time and money, and prevent disruption when unnecessary breaking, chipping, and splitting of bobbins and spools is avoided. In a year's time these items alone can amount to a surprising sum . . . Insist on Anderson and get the best protection metal shields afford . . . Watch your spinning room efficiency increase!

TEXTILE SHIELD CO., INC.

Metal Protection for Wood Turnings

J. N. ANDERSON, *Treas.*

LAWRENCE, MASS., U.S.A.

Improved Distribution of Goods

(*Continued from page* 173)

duce real efficiency in merchandising?

Evidently some of the smartest merchants believe not. These same merchants will wrangle violently over a concession of one-eighth of a cent a yard from the mill, and then tack five cents a yard on the goods to cover some new luxury offered to the shopper. In most large cities there will be stores operating with the same type of merchandising efficiency a manufacturer would expect to find in a capably managed plant. These stores move tremendous quantities of merchandise without frills, and with a quick turnover on a small margin of profit, but it takes a pretty good-sized town to support even one of them. The American shopper demands, above everything, plenty of luxury and plenty of attention, even if these are expensive.

Some years ago an astute merchant in New York started a retail business based entirely on efficient distribution at low cost. His store was in the cheapest loft buildings he could find. The walls were rough and unadorned. The displays were on the cheapest obtainable gas pipe racks. There were no sales people—every man was his own clerk. There were, however, bargains — incredible, fantastic bargains.

The owner of the store bought only for cash, and he bought in tremendous quantities at absolute rock bottom prices, and frequently below rock bottom. His mark-up might be only five or six per cent as compared with the 150 to 300 per cent mark-up of the flossy Fifth Avenue shop selling the same goods. This merchant felt that any goods which remained in stock much more than 24 hours represented bad judgment in purchasing.

Every morning when this store opened there would be buyers from the fancy shops up-town swarming into the place and picking up great armfuls of choice merchandise without even inspecting the goods. The next day some of these shrewd purchases of the canny merchant would appear on display in plush Fifth Avenue shops marked up to four times their retail prices in the downtown loft store. Some woman would buy one of these at this exhorbitant price and cherish it as something of rare value, simply because it cost four times as much as it was worth.

While this merchandising policy built up a tremendous business for this particular store, it did not change the buying habits of the general public in New York. People were still willing to pay three or four prices for something in order to get the swank that went with the purchase, and to feel the satisfaction of trading in a famous and luxurious shop.

If the buying habits of the public with regard to textile products could be changed to permit the efficient distribution of goods, we would probably have to build a lot more mills instead of facing the prospect of junking some of those we now have. Only in the upper income brackets does a household normally have all the textile products that it would like to have, and probably would get if the cost of distribution could be as efficiently managed as the cost of manufacturing.

Some promising steps have been taken in this direction. Some chain stores specializing, for example, in suits, shirts, hats and other standardized items, have cut down distribution costs, but unfortunately they have frequently cut down on quality as well.

Only about one-fourth of the employed people in the United States are engaged in manufacturing. It takes the other three-fourths to distribute and service what has already been manufactured and to render those services not connected with manufacturing. If we used fewer people to distribute goods, it would be possible to make more goods to be sold at lower prices. Basic improvements in the standard of living will almost certainly therefore have to come out of the three-fourths of the people who produce

"H-W"®
FULLY AUTOMATIC
CONDITIONER
for
PRE-SETTING
NYLON HOSIERY

"H-W" Conditioners for Nylon Hosiery are used in mills everywhere. Typical results: increases yield of perfects approximately 15 percent . . . eliminates picks and pulls and reduces snags to a minimum . . . speeds seaming and looping; greatly increases production in these operations . . . minimum maintenance . . . pays for itself in a short time.

Write for Bulletin H1.

"H-W" Conditioner for Nylon Hosiery in Langhorne Hosiery Mill, Phoenixville, Pa.

THE INDUSTRIAL DRYER CORPORATION
STAMFORD, CONNECTICUT.

nothing, but merely distribute goods or render services.

This question of reducing distribution costs of its products is of vital interest to the textile industry, which is technically overproducing, and right now faced with the problem of liquidating a part of its plant. A great many persons agree with the late Henry Ford that there is seldom any such thing as overproduction—the trouble is under-consumption. Mr. Ford offered very convincing proof of this theory by constantly reducing the cost of making and distributing his automobiles, and noting with each decrease in price a substantial gain in his volume of business.

It is easy to imagine the huge increase in the demand for textile products which would result if goods now carrying a 100 per cent mark-up could be handled for 20 or 25 per cent.

This is a subject worthy of profound consideration by the merchandising executives of the textile industry. Perhaps merchandising can never be as efficient as manufacturing, and perhaps the buying habits of the people can never be changed enough to revolutionize merchandising methods. We doubt this to be the case, however, and feel that some time, somebody will hit upon a revolutionary idea as far-reaching in its implications as those simple basic ideas on which the Industrial Revolution was founded.

The man who is generally credited with the invention of the supermarket has been recently experimenting with a mechanized store, for which he claims great things. So far, we have heard little about the progress of this particular idea, but maybe it can be developed into something to make shopping easier and cheaper. Surely somebody will some day come up with an improvement over the marketing methods in use when Joseph governed Egypt. Someone who can do this and evolve a really efficient system of marketing the products of the textile industry would be almost as great a benefactor as Arkwright or Crompton.

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As Production Engineers we specialize in the utilization of

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Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

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MILTON WARP BEAMS

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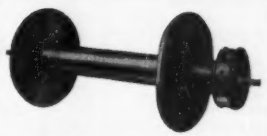
BROADLOOM BEAMS



For C & K Looms (pictured) and Draper Looms (with let-off gear). Steel barrels, cast iron flanges.

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Steel barrels, with your choice of adjustable head and fixed shaft (pictured) or fixed head with removable shaft.

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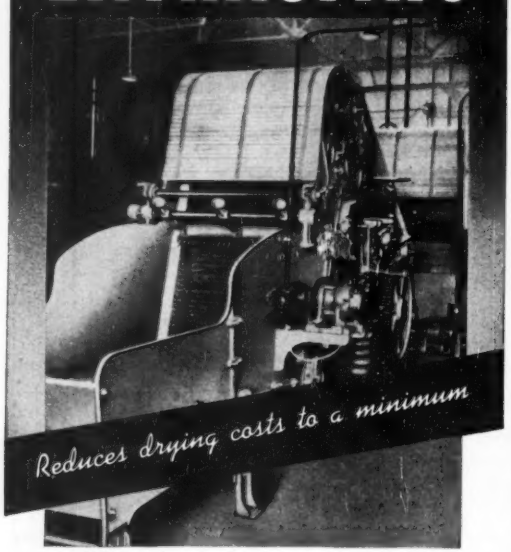
Continuous–Automatic EXTRACTING



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- Machine made in five widths for varying plant requirements.
- Even and continuous flow of material into and through the dryer.
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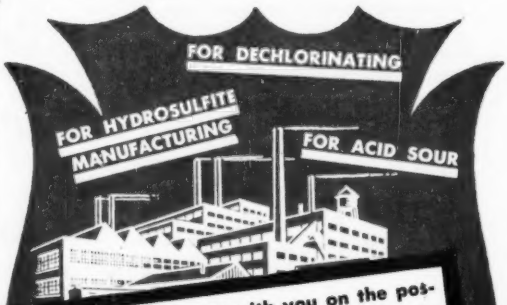

Let us consult with you on the possible uses of Sulphur Dioxide in your industry, 'phone, wire or write the Tennessee Corporation, Grant Building, Atlanta, Georgia.

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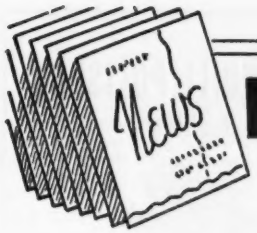

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Here is the "cream of the crop" of literature on textile subjects as prepared by TEXTILE INDUSTRIES' advertisers to aid in mill operation and management. These reference books and catalogs are free for the asking and there is no obligation involved. Read through the list carefully for booklet on the subject or new Equipment in which you are interested. Then fill in the numbers of those desired on the coupon on page 218 and mail it to TEXTILE INDUSTRIES. ("First Listings" shown below are not confined solely to TEXTILE INDUSTRIES' advertisers.)

This service is restricted to those engaged in operation and management of textile industries.

12-1. Dyeing Synthetic Fibers. New Brochure outlines current methods of dyeing the new synthetic fibers and blends, Dacron, Dynel, Acrilan, Orlon, Vicara, etc. The pamphlet indicates what synthetics and blends can be dyed satisfactorily now, and what the hoped-for future results and trends will be. General Dyestuff Corporation 435 Hudson St., New York, N. Y.

12-2. Knitting Machine. New catalog describing in detail the new Scott and Williams Modern Infants' Komet Links and Links machine. This catalog, number eight in a planned series of fifteen, shows the outstanding features of the machine as well as the many product possibilities. Punched for easy filing and contain complete technical data, machine specifications, space and power requirements, yarn requirements and production figures. Scott & Williams, Inc., 350 Fifth Ave., New York 1, N. Y.

12-3. Sigmamotor Pump. Brochure describing this pump which can be used to force liquids, solutions, or gases through tubing. Designed to assist the chemical research worker and the process engineer, and is described as operating by a series of fingers pressing against flexible tubing in sequence which imparts a positive unidirectional movement to fluid in the tube. Uses fully discussed and pictured. E and M Enterprises, Inc., Middleport, N. Y.

12-4. Card Grinding. Cloth bound book entitled Card Grinding in Theory and Practice and is a complete treatise on modern methods of grinding card clothing. Every process is exhaustively dealt with, and several new machines are described and illustrated. Dronsfield Brothers Limited, Atlas Works, Oldham, England.

12-5. Steam Cost Calculators. A new and modernized "slide rule" type calculator designed to provide a ready means of computing steam costs is available. The calculator enables the user to compute the comparative steam costs per 1000 lbs using coal, oil, or gas—and based on fuel costs of price per ton, price per gallon, and price per cubic foot. Cleaver-Brooks Company, 326 East Keefe Ave., Milwaukee 12, Wisc.

12-6. Fiber Glass. Specifications for the yarns and superfine fiber glass are fully outlined in a pamphlet entitled "Reinforcements" now being distributed to the trade. The specifications list 18 different yarns marketed in seven forms, and 22 different superfine fiber glass products. Libbey-Owens-Ford Glass Company, Fiber-Glass Division, Toledo 3, Ohio.

12-7. Long Draft Aprons. New brochure describes the seven departments which handle and inspect the Singleton "Draft Horse" Long Draft Aprons. The purpose of the folder is to give you a brief outline of what is done to insure micrometric accuracy of measurement, absolute uniformity and highest attainable quality of this company's long draft aprons. Russell A. Singleton & Sons, Blanco, Texas.

12-8. Magnetic Separators. A 12-page catalog briefly describes this company's entire line of magnetic separators and lifting magnets. The illustrated bulletin tells which magnets to use to remove iron from wet or dry materials carried on conveyor belts, as well as from chutes, ducts, etc. Bulletin serves as a handy guide to the selection of a magnet from the application standpoint. Dings Magnetic Separator Co., 4740 W. Electric Ave., Milwaukee 46, Wisc.

12-9. Glass Block. New booklet on Insulux glass block points out how this non-critical material can be used for plant improvement and for replacement of worn-out window sash. The booklet brings out that glass block offers savings of tons of scarce metal in building new plants in addition to eliminating repair bills since Insulux is impervious to steam, corrosive vapors and high humidity conditions. American Structural Products Company, Toledo 1, Ohio.

12-10. Materials Handling. New 3-color booklet describes and illustrates the broad line of Clark industrial towing tractors, fork-lift trucks and attachments, powered hand trucks and stackers which, according to the booklet, puts modern materials handling techniques into profitable practice wherever they are used. Clark Equipment Company, Buchanan, Mich.

12-11. Plastic Printing. New color book is available which covers this company's line of Suntone pigment colors for plastic printing. The colors comprise a complete line of single print shades adequate to match substantially any color required in the printing of vinyl plastic sheeting, according to the booklet, and as an aid to printers it contains information on the properties and uses of the colors. Suntone Color Dept., Warwick Chemical Co., 10-10 44th Ave., Long Island City 1, N. Y.

12-12. Spinning Machinery. This well-known German textile machinery manufacturer has issued catalogs in English, French, Spanish, and German picturing and describing their line of hopper feeders, openers and cleaners, revolving flat cards, drawing frames, etc. Pictured and description of each. Deutscher Spinnereimaschinenbau, Ingolstadt/Oberbayern, Germany.

12-13. Sunotex Machine Oil. New booklet describing this machine oil as being "custom-made" for the textile industry. Advantages discussed and pictures of uses which includes knitting machinery. Sun Oil Company, Philadelphia 3, Pa.

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● The reduction of broken picks is one of the features of the Nash No. 79. Running quills through keeps them in perfect condition . . . assures clean, smooth quills at all times, free from sharp surface projections and burnished to a high, dry luster.

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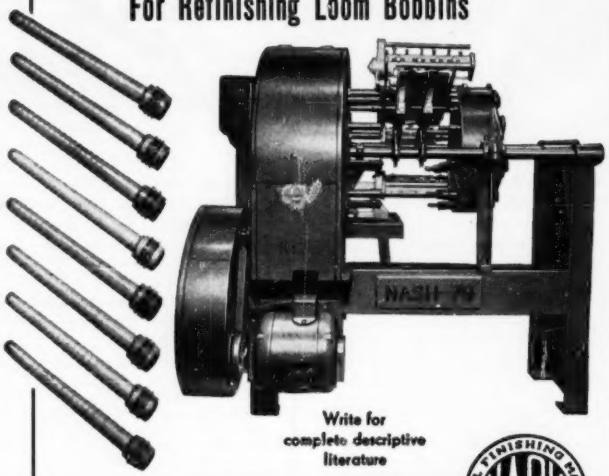

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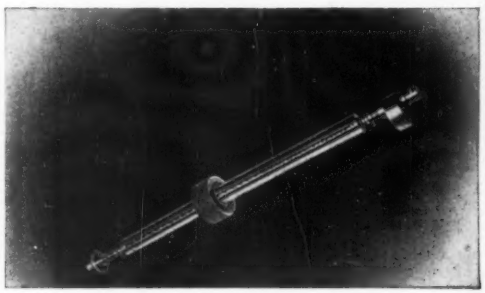

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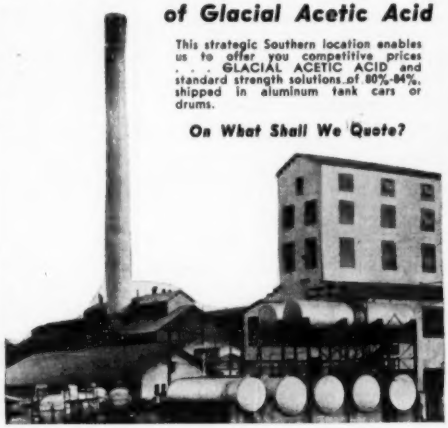

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GENERAL, ECONOMIC, MANAGEMENT

4 **HOW FACTORING CAN INCREASE PROFITS**—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., 2 Park Ave., New York City.

12 **CONDENSED LISTINGS**—8 page pocket sized booklet listing by plan flow the machinery and mill supplies available. Designed to help purchaser in grouping his orders to greatest advantage.—ATKINSON, HASERICK & CO., Boston, Mass.

16 **TEXTILE RESEARCH** — Booklet describing Research Department's commercial scale facilities for cotton spinning, worsted spinning, etc. Explains organization and function of department.—AMERICAN VISCOSE CORP., SYLVANIA DIV., 350 Fifth Ave., New York, N. Y.

17 **A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK**—8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management.—AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

18 **FACTORING**—Information available on how factoring works to aid client in keeping capital fluid and to avoid credit losses. Inquiries regarding these services welcome.—L. F. DOMMERICH & CO., 271 Madison Ave., New York 16, N. Y.

PLANT AND PLANT MAINTENANCE

103 **HUMIDIFICATION, EVAPORATIVE COOLING** —Bulletins available displaying AMCO automatic self-cleaning atomizers, controls, and evaporative cooling equipment. — AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

116 **PROTECTIVE COATINGS**—Bulletin No. 7-1 lists and gives uses of the complete line of Corrosion-Proof Protective Coatings.—ATLAS MINERAL PRODUCTS CO., Mertztown, Pa.

121 **STEAM GENERATORS** — Bulletin P-1 describes compact package type boiler for heating, power, or processing. Described as fully automatic, firing all liquid or gaseous fuels.—THE CYCLOTHERM CORP., Oswego, N. Y.

123 **STAINLESS STEEL TANKS** — Bulletin CHR-50 illustrates the half round stainless steel horizontal jacketed tank with horizontal agitator and scraper blades, used for size cooking. Bulletin JS-50 shows various stainless steel jacketed tanks, and SS-50 shows single shell tanks.—METAL GLASS PRODUCTS CO., Belding, Mich.

145 **META-CLEAN** — Complete literature describing Jarrett's Meta-Clean, a new non-inflammable, non-irritating, odorless, concentrated liquid cleaner which greatly reduces cleaning time of looms and other equipment along with small parts, according to the booklet.—CECIL H. JARRETT CO., INC., Newton, N. C.

150 **RIHCO HUMIDIFIERS AND COOLING SYSTEMS**—Bulletin describes new atomizers with construction lessening air consumption in humidifier systems, evaporative cooling systems.—ALDRICH MACHINE WORKS, Greenwood, S. C.

156 **PNEUMATIC ATOMIZERS FOR HUMIDIFICATION**—Catalog Section 3A describes the type ESC Atomizer using air and water under pressure for minimum air consumption and simple modulating control.—THE BAHNSON CO., Winston-Salem, N. C.

164 **DRY SCRUBBING TEXTILE MILL FLOORS**—With Holt combination Sanding and Steel Wooling machines and Selig's Floroseal-Flortone method. Literature describes system and reveals economy made possible by reduced costs in labor and material consumed. —THE SELIG CO., 342 Marietta St., Atlanta, Ga.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION

202 **RELIANCE MOTOR**—Bulletin C-130 on the explosion-proof, corrosive-resisting a-c motor. Design features exclusive with the new motor are connected and illustrated in the bulletin.—THE RELIANCE ELECTRIC & ENGINEERING CO., 1076 Ivanhoe Road, Cleveland, Ohio.

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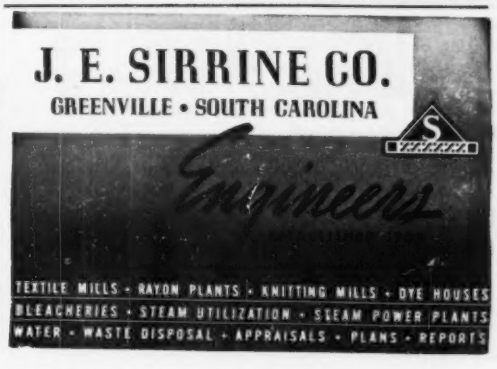
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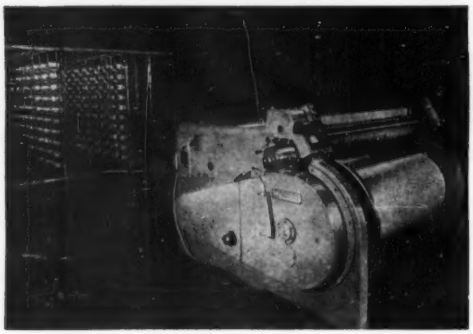

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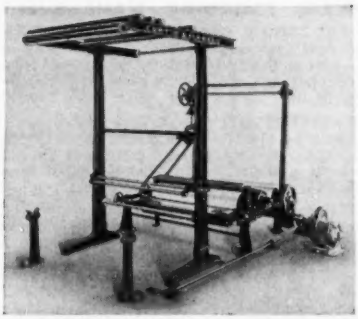

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205 VARIABLE SPEED SPINNING FRAME DRIVE—Reeves bulletin G-501 describes the Reeves Vari-Spin Drive which has infinitely variable speed within a 2½ to 1 range and replaces the constant speed drives now in use.—REEVES PULLEY CO., Columbus, Ind.

206 LOOM MOTOR BULLETIN—The new design of this ball bearing motor is claimed to represent an advance in the design of loom motors fully discussed.—THE LOUIS ALLIS CO., 427 E. Stewart St., Milwaukee, Wisconsin.

210 MOTOR BEARINGS—The 1950 edition of Johnson's Industrial Bearing Catalog is now available. Shows several new motor bearings added, along with the standard stock sizes.—JOHNSON BRONZE CO., New Castle, Pa.

213 ELECTRICAL SPECIALTIES—Catalog No. SS68, 64 pages, lists manual and magnetic motor control and accessories, safety switches, Multi-Breakers and electrical specialties.—CUTLER-HAMMER, INC., 361 N. 12th St., Milwaukee 1, Wis.

214 THE INSIDE STORY OF TRICO RENEWABLE FUSES—Bulletin No. 1 explains the difference between Trico Powder-Packed and ordinary fuse link design. Quick reading, informative, profusely illustrated. Tells how maximum returns may be secured from fuse investment.—TRICO FUSE CO., 2948 N. 5th St., Milwaukee 12, Wisc.

216 LEATHER BOOKLET NO. 202—Attractive book illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Solid Round Leather Belting, Flat Belting.—CHAS. BOND CO., 617 Arch St., Philadelphia, Pa.

223 ELEVATOR SELECTION—How to integrate the selection of freight elevators with the material handling problem answered in 44-page booklet B-4402 on freight elevators.—ELEVATOR DIVISION, WESTINGHOUSE ELECTRIC CORP., P. O. Box 868, Pittsburgh, Pa.

240 LEATHER BELTING—Illustrated booklet on how to select, install and maintain leather belting. Efficient transmission performance, with minimum maintenance, and maximum service life described.—SOUTHERN BELTING CO., 236 Forsyth St., N.W., Atlanta, Ga.

244 TEXACO SPINDURA OILS—Folder on lubrication for all types of spindles, based on actual tests.—TEXAS CO., 135 E. 42nd St., New York 17, N. Y.

255 AUTOMATIC LUBRICATION OF WARP KNITTING MACHINERY—Four-page illustrated reprint of technical article showing how automatic lubricating system is applied to tricot knitters and the savings realized by a typical mill.—BIJUR LUBRICATING CORPORATION, Rochelle Park, N. J.

272 LUBRICANTS FOR TEXTILE MACHINERY—Houghton's 6-page folder includes complete recommendation charts for lubricating all types of textile equipment.—E. F. HOUGHTON & CO., 303 W. Lehigh Ave., Philadelphia, Pa.

INSTRUMENTS, STEAM SPECIALTIES

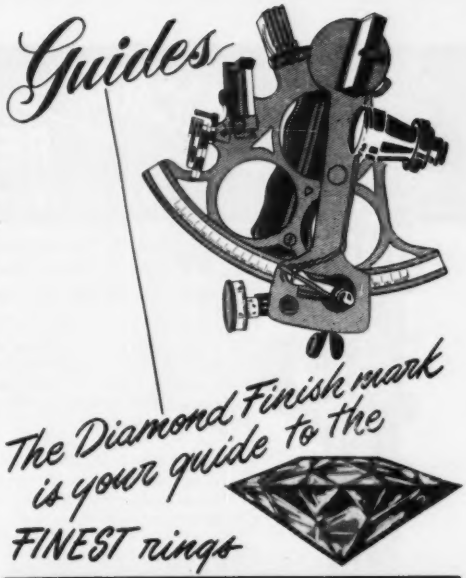
300 TEXTILE DIGEST—18-page manual reviewing performance-proved procedures for improved handling of more than 60 essential cleaning and related operations in textile mills.—OAKITE PRODUCTS, INC., 22 Thames St., New York, N. Y.

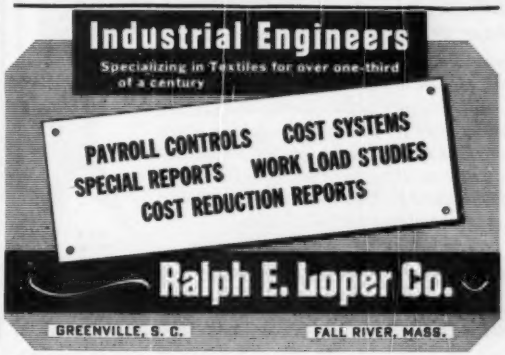
311 PIPING POINTERS—Industrial maintenance book covering installation and handling of piping, valves, fittings. Well illustrated, practical tips.—CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.

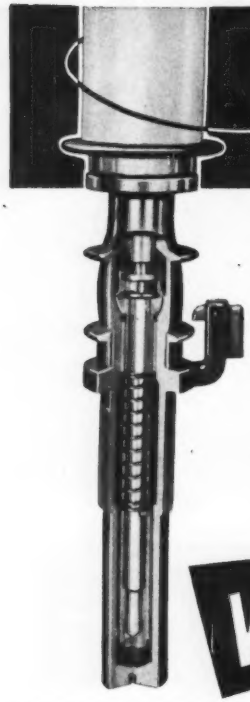
314 MOISTURE CONTENT CONTROL — Bulletin F-3156 giving details of features and benefits of moisture equipment control for slashers and textile applications.—BARBER-COLMAN CO., Rockford, Ill.

316 HYDRAULIC POWER UNITS — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc.—B. F. PERKINS & SON, INC., Holyoke, Mass.

319 GUIDE TO CORRECT INSTRUMENT SELECTION—This completely revised edition gives a comprehensive bird's-eye view of the companies' entire







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instrument line. Bulletin 98170.—TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

324 **STROBOTAC**—Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills."—GENERAL RADIO CO., Cambridge 39, Mass.

327 **PRESSURE REGULATORS**—Bulletin P-100 describes equipment for slashers to provide squeeze roll pressures that can be easily adjusted to the correct value for any warps being sized.—NORCROSS CORP., Newton, Mass.

333 **HOSIERY DYEING**—Bulletin 98188 with drawings and illustrations, explains automatic control system for hosiery dyeing based on time and temperature.—TAYLOR INSTRUMENT COS., Rochester, N. Y.

CARDING, SPINNING, WINDING

400 **THE TRAVELER**—Booklet on ring travelers published quarterly with a technical article on spinning and twisting of interest to mill men.—VICTOR RING TRAVELER CO., Providence, R. I.

414 **WORSTED SPINNING**—Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top to yarn in five economical and efficient stages.—SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

415 **DOUBLE-TWISTER FOR LARGE PACKAGES**—Bulletin describing two new machines producing straight or tapered top bobbins. Suitable for filament or spun yarns up to three pound capacity. Individual thread stop motion fully discussed.—FLETCHER WORKS, INC., Philadelphia, Pa.

418 **PACIFIC CONVERTER**—Graphic description of machine that cuts any synthetic tow; and when desired, blends it with wool or staple sliver, keeping the fibers parallel, and issuing an even sliver of accurate blend.—WARNER & SWASEY CO., Cleveland, Ohio.

423 **TEXTILE SHEET METAL PRODUCTS**—Folder on cylinders, card screens, licker-in screens, repair work.—JENKINS METAL SHOPS, INC., Gastonia, North Carolina.

427 **WINDING AND CREELING WARP YARNS**—Universal's Bulletin No. 442 contains an interesting treatment of this subject.—UNIVERSAL WINDING COMPANY, Providence, R. I.

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432 **PRECISION TEXTILE WINDING**—Bulletin on Kidde Tensions and Density Control for winding rubber cones.—WALTER KIDDE & CO., INC., Belleville, N. J.

436 **MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER**—Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication and recording.—SCOTT TESTERS, INC., Providence, R. I.

442 **HIGH SPEED SPOOLING**—U. S. Acme Spooler handles yarn from bobbins, cakes, cones, pirns, or skeins, as shown in bulletin describing.—U. S. TEXTILE MACHINE CO., 100 Gilligan St., Scranton 8, Pa.

447 **CONE WINDER**—Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply.—FOSTER MACHINE COMPANY, Westfield, Mass.

462 **TEXTILE MACHINERY PARTS CATALOG**—A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc.—DAYTON RUBBER CO., Dayton, Ohio.

WEAVING, SLASHING

501 **LOOMS**—An accordion type folder is available entitled "Unfolding to You the World's Largest Line of Looms". Information on all types fully discussed.—CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

502 **COUNTING AND MEASURING DEVICES**—Condensed Textile Catalog illustrating and describing

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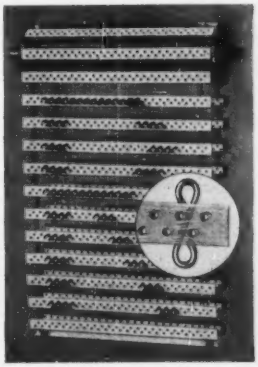

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The revolutionary new principle of shredding waste twice on a single cylinder—more completely and with less stoppage than other machines employing two cylinders—has cut waste processing costs in half. Learn for yourself the profits in K&D 10-point superiority. Write today for illustrated booklet, cost, and complete details.

1. Gives double action with better results on a single cylinder.
2. 60% fewer gears, sprockets, chains, etc.
3. Eliminates need for fans and dust rooms.
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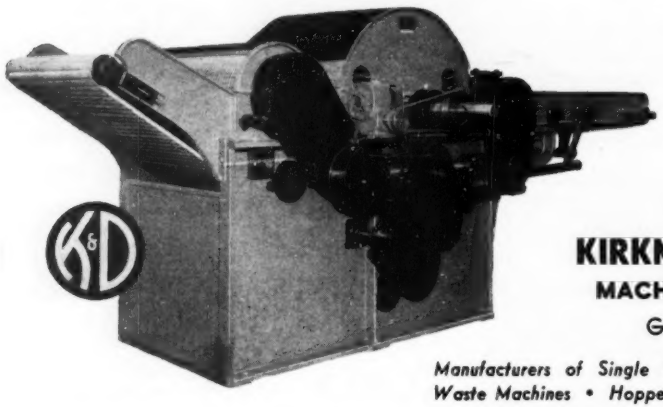
5. Occupies just half mill floor space.
6. Reduces nipping and chewing of fibers.
7. Safety guards for gears, sprockets, and chains.
8. Uses 7½ HP motor to cut power costs.
9. Fewer stops, less down time, lower repair costs.
10. Renders larger percentage usable fiber.



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Only Johnson Joints offer *all* these cost-cutting, trouble-saving, production - boosting benefits. *Only* Johnson Joints end *all* the shortcomings of old style stuffing boxes, without compromise of any sort. No wonder so many hundreds of mills, and so many machinery manufacturers, have standardized on Johnson Joints. Why not find out how quickly Johnson Joints can pay their own way in your mill.

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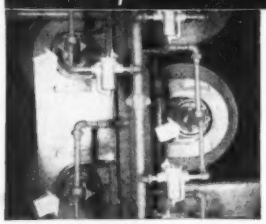

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THE PRINCIPAL MILL SUPPLY HOUSES AND CARD MAKERS

pick counters, hank counters, cut meters, measuring counters. Wide range of counting devices for production recording on all types of textile machinery.—VEEDER-ROOT, INC., Hartford, Conn.

507 **VARIABLE SPEED SLASHER DRIVE** — Reeves bulletin G-503 describes their Servo-Control slasher drive which automatically controls tension from creel to beam, and which controls the stretch in the slasher.—REEVES PULLEY CO., Columbus, Ind.

517 **LOADING SYSTEM**—Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

526 **LOOM EQUIPMENT** — Folders on flat heddles, frames, and reeds for all types of looms and weaves. — WALKER MFG. COMPANY, Atlantic and Ruth Sts., Philadelphia 34, Pa.

531 **EVENNESS TESTER**—Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning.—USTER CORPORATION, Charlotte, N. C.

DYEING, FINISHING, CLOTH ROOM

611 **BRUSHING AND SHEARING MACHINES**—Illustrated literature on the new Hermas Brushing Machine for use light sheeting to heavy ducks; also on Hermas AV Shears.—HERMAS MACHINE CO., Hawthorne, N. J.

612 **PIXOL**—Recommended as a leveling and penetrating agent, especially for the dyeing of wool, described as being useful as a finish for worsted piece goods. Prevents bronziness in sulphur dyeing on cotton. —AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

619 **HIGH SPEED TENTER FRAME**—Illustrated leaflet showing modern design features which give greater production, longer life and fewer seconds.—MARSHALL AND WILLIAMS CORP., Providence, R. I.

625 **BALL BEARING ROLLER TYPE SCRAY** — Circular No. 904 describing the scray which is for use in handling heavy and large size rolls of cloth. This is used either in finishing plants or in the cloth room of cotton mills.—BIRCH BROS., INC., Somerville, Mass.

627 **SINGLE APRON STOCK DRYERS**—Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

634 **APPLICATION OF INTERCHEM ACETATE DYES**—Bulletin IAD-1 describes procedures for dyeing and printing acetate rayon and nylon fabrics with new line of highly dispersed acetate dyes. — INTERCHEMICAL CORPORATION, TEXTILE COLORS DIVISION, Hawthorne, N. J.

639 **ROTARY DYEING MACHINE**—Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc.—SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

648 **SQUEEZE ROLLS**—Circular No. 1106 describes this four-tank machine for open-width processes. Squeeze rolls running in roller bearings, pressure applied by air cylinders and the drive by D-C motors on each nip controlled by built-in dancer or compensating rolls.—BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

DYESTUFFS, CHEMICALS, SOAPS

701 **MAGNESIUM APLICATIONS**—Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry.—DOW CHEMICAL CO., Midland, Mich.

703 **WATER REPELLENTS**—Data sheet 1043 describes application of De Cetex 104, which is described as a durable, water repellent finish that is easily applied on conventional finishing equipment and its resistance to spotting; laundry or dry cleaning durability is good.—DOW-CORNING CORP., Midland, Mich.

705 **THEORETICAL AND APPLIED SILK-SOAKING** —Attractive 23-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk.—HART PRODUCTS CORP., 1440 Broadway, New York 18, N. Y.

712 **VANDERBILT MATERIALS**—Available is a 6-page booklet describing non-toxic fungicides, and their use in textile operations.—R. T. VANDERBILT CO., INC., 230 Park Ave., New York 17, N. Y.

713 **LIOVATINE ED**—Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color.—SANDOZ CHEMICAL WORKS, 61 Van Dam St., New York City.

716 **WIDE RANGE SCOURING AND WETTING AGENT** — 4-page folder describing Houghton's concentrated, non-ionic, synthetic detergent and wetting agent, Cerfak 1300, usable over entire pH range for efficient scouring and wetting.—E. F. HOUGHTON & CO., Philadelphia 33, Pa.

738 **LEVELENE**—Booklet describing use of Levelene for leveling vat and direct colors. Also for stripping down vat colors.—AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

749 **WATER SOLUBLE GUMS** — Booklet giving the origin, gathering, marketing and uses of water soluble gums. This booklet No. 23 is beautifully illustrated, and is one of the few treatises on the subject.—JACQUES WOLF & CO., Passaic, N. J.

768 **TEXTILE CHEMICALS**—Buying guide and reference book giving facts about Amalgamated Products, the fabrics on which they give best results, their proper application, and their chemical composition. —AMALGAMATED CHEMICAL CORP., Philadelphia 34, Pa.

774 **ROYCE TEXTILE CHEMICALS** — This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

776 **SERIZYME** — Bulletin describing the properties and characteristics of Serizyme, a standardized liquid proteolytic enzyme preparation which can solubilize various types of protein substances. — WALLERSTEIN COMPANY, INC., 180 Madison Avenue, New York 16, N. Y.

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KNITTING

801 **THE WILDMAN SINGLE-HEAD FULL-FASHIONED HOSIERY MACHINE**—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

806 **STATISTICAL SURVEY** — Covering the Full-Fashioned Hosiery knitting industry in the United States and Canada. — TEXTILE MACHINE WORKS, Reading, Penn.

810 **ALUMINUM BEAMS**—Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types.—HAYES INDUSTRIES, INC., Jackson, Mich.

812 **CIRCULAR KNITTING MACHINES**—Interesting, informative and well illustrated is this six-page folder, just released, which describes this company's small diameter circular knitting machine.—H. BRINTON COMPANY, Kensington Ave. and M St., Philadelphia 34, Pt.

813 **THE NEW REINER HIGH SPEED TRICOT MACHINE**—168" or 84" knitting widths. A richly illustrated catalog describing its many novel features of construction and performance.—ROBERT REINER, INC., Weehawken, N. J.

820 **VARIABLE STRIPES AND PLAIDS**—Booklet describing Supreme Models SA and SA-ROF Stripers for knitting plaids, checks, "floatless" designs and variable stripes. — SUPREME KNITTING MACHINE CO., INC., 105 Johnson Ave., New York.

828 **THE KIDDE KNITTER**—Bulletin describing this newest in Raschel-type warp knitting machines and higher production attained with it.—KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

SEWING MACHINES

904 **CONDENSED CATALOGUE**—A 40-page pocket-sized booklet illustrating and describing sewing machines adaptable for practically all phases of the needles trade. — WILLCOX & GIBBS SEWING MACHINE CO., New York, N. Y.

912 **ELASTIC HEMMING AND INSERTING MACHINES**—Bulletin No. 833, illustrating and describing the improved high speed machine Style 992-5, for work on undergarments, dresses, pajamas, etc.—WILLCOX & GIBBS SEWING MACHINE CO., New York, N. Y.

915 **THE NEW UNION SPECIAL LOCKSTITCH MACHINE**—Information on the new model which cuts production time on sewing operations is contained in Bulletin No. 258.—UNION SPECIAL MACHINE CO., 400 N. Franklin St., Chicago 10, Ill.

MATERIALS HANDLING

1001 **HOW TO DETERMINE WHERE OVERHEAD MATERIALS HANDLING EQUIPMENT CAN BE USED PROFITABLY**—Profusely illustrated. Gives clear, concise understanding of materials handling. Helps you to determine where and what equipment might be used to speed production and increase profits.—CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

1003 **CASTERS AND WHEELS**—192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach 4, Calif.

1006 **LANE CANVAS BASKETS**—16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007 **OVERHEAD HANDLING EQUIPMENT** — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem. — THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1009 **CANVAS PRODUCTS**—A complete listing with illustrations of Dandux Canvas Products. For easy fingertip reference and handy file size. Brief but factual information.—C. R. DANIELS, INC., Daniels, Md.

1011 **TEXTILE TRUCKS** — Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, steep lap, fiber, utility trucks, etc. Uses and description.—EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

1025 **ELECTRIC HOISTS AND CRANES** — Booklets describing a complete line of Electric Overhead, Cab and Floor-Operated Traveling Cranes, and a similar complete line of Electric Hoists. All fully discussed with pictures and engineering diagrams.—SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N. Y.

1030 **C-D HOLLOW WARE**—This 2-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL-DIAMOND FIBRE CO., Newark 38, Del.

MISCELLANEOUS

1101 **AUTOMATIC BOBBIN REFINISHER** — A descriptive bulletin illustrating and describing method of refinishing throwing bobbins on a production schedule.—J. M. NASH COMPANY, 2300 N. 39th St., Milwaukee, Wis.

1102 **BALING PRESSES**—An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models.—ECONOMY BALER CO., Ann Arbor, Mich.

1103 **UNBRAKO SCREWS**—Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1111 **BRUSHES**—A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry.—GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112 **THE RANDOM WEB PROCESS**—Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams.—CURLATOR CORPORATION, Textile Division, 565 Blossom Rd., Rochester, N. Y.

December, 1951

Please send, without obligation, additional information on New Equipment and booklets described (give Key numbers) .....

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News in Brief

(*Continued from page 99*)

nylon stockings, a German drapery firm recently displayed a coffee making machine. The filter in the novel display was a nylon stocking, and underneath was a caption: "The nylon fabric of our stockings is so fine and durable that it makes an ideal filter cloth for the preparation of coffee. But... you will never misuse our wonderful nylon stockings for such a prosaic purpose. The pair costs only —."

Utilitarian Qualities Judged. Manufactured products were judged solely on the basis of utility and multiple-use possibilities when fifteen experts, including editors of consumer and trade magazines and specialists in retailing, journeyed to Allentown, Pa., on October 25 to vote for the eight winners in Hess Brothers Versatility in Design Awards Contest.

Instruments from Abroad. Look for the Swiss to campaign stronger for the American textile market in the near future in such items as a simple electronic stretch indicator for slashers which will read directly and continously; easily attached rpm dials for spinning frames which will indicate speed of front roll, spindle, cylinder, or speed of any shaft on the frame; operational recorders for batteries of machines which will allow central supervision.

Wet Processors Get Wage Contract. Two annual increases of 6 cents an hour and 4¼ cents more in fringe benefits have been negotiated by TWUA for 18,000 operatives in New York and New Jersey dyeing, finishing, and printing firms.

Velvet Carpet Loom at N. C. State. A velvet carpet loom, said to be the first such machine to be owned by an American college or university, has been installed in the School of Textiles at North Carolina State College. The loom was donated to the institution by the Bigelow-Sanford Carpet Company, Inc., of New York City.

for your nylons—

Smoother production, easier selling with

LAUREL NYLON HOSIERY FINISHES

Assure you better lubrication and increased elasticity. Yield softer, more beautiful hosiery with greater freedom from snags and wrinkles. Laurel Finishes improve your manufacturing and selling *and* profit position. Let our Technicians arrange a test for you. Write today.

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LAUREL SOAP MANUFACTURING CO., Inc.

Wm. H. Barbehl's Sons

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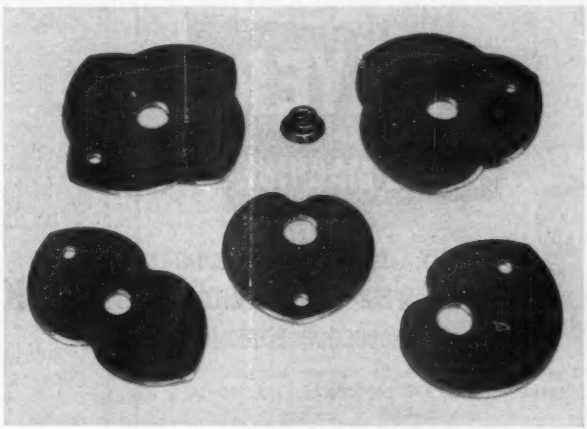

Are you getting the maximum yardage on your bobbins from your spinning and twisting? Are you getting the most satisfactory build possible in your winding operation?

Today, many mills are finding that they are able to obtain the above benefits by changing over to our steel builder cams. With the steel builder cam you can get accuracy, such as composite cams, which is not possible with a cast iron cam. We can duplicate any cam and supply any number without any variation. Modernize your equipment for present day conditions by selecting the proper cam for your work.

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Introducing the

New, Modern Streamline

HYDRAULIC OIL CYLINDER

The most "trouble-free" cylinder on the market today! Years of field experience and engineering "know-how" have made possible this improved cylinder design. Simplified two-piece screw-on design allows easy change of mounting; circular end castings eliminate all assembly bolts; dirt catching piston seals; heavy wall seamless steel tubing eliminates porosity; no resultant leakage as "O" Ring Gaskets seal with pressure; built-in internal relief valves—these are but a few of the features.

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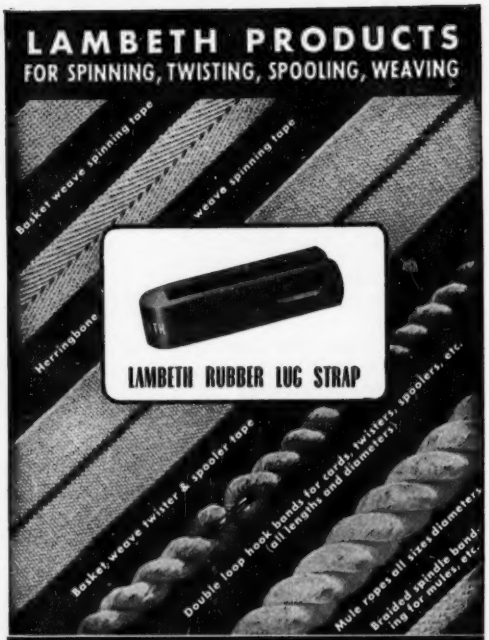
FOR SPINNING, TWISTING, SPOOLING, WEAVING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weave spinning tape
Herringbone
LAMBETH RUBBER LUG STRAP
Basket weave twister & spooler tape
Double loop hook bands for cards, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes all sizes diameters
Braided spindle banding for mules, etc.

LAMBETH ROPE CORPORATION

Plants at New Bedford, Mass. and Kings Mountain, N. C.

THE MAYER HIGH-SPEED TRICOT MACHINE

. . . IS OUTSTANDING IN

SPEED • VERSATILITY

PRODUCTION ECONOMY

2 or 3 GUIDE BARS • UP TO 168" WIDTH
CUT-PRESSER-PATTERN BAR (OPTIONAL) • 22 TO 34 GAUGE

This EXCEPTIONALLY COMPACT machine has been developed by outstanding pioneers and designers of Tricot knitting machines, combining practical experience with engineering knowledge. We present a truly HIGH SPEED machine of UNEQUALLED SMOOTHNESS in operation and MAXIMUM EFFICIENCY in performance.

Write for particulars or visit us for a demonstration

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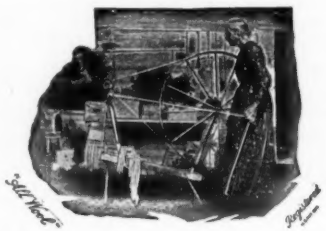
SUPPLIERS TO THE TEXTILE TRADE FOR OVER 25 YEARS



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SUPPLIERS News

WHAT THEY ARE DOING

John R. Craig, with the organization since 1941, has been made a member of the Mid-West sales force for **Nopco Chemical Co.** His territory will include the states of Texas and Oklahoma. Mr. Craig will be responsible for Nopco sales as well as sales of metallic soaps produced by Metasap Chemical Co., a subsidiary.

A $296,000,000 expansion program has been planned by **Westinghouse Electric Corp.**, which will extend beyond 1953.

A southern office, at 317 Tryon St., Charlotte, N. C., has been opened by **Charles T. Main, Inc.**, engineering firm. T. H. Safford, formerly of the Boston office, will be in charge.

George L. Browning, Jr., has joined **Synthron, Inc.**, as technical representative in the southern states. He was formerly with Raw Materials Co. of Boston, Mass.

James A. Moffett, vice-president of the firm, and Robert W. White, of Robert White Associates, have been elected to the board of directors of **Corn Products Refining Co.**

Howard S. Stevenson has been made a senior associate of **Bruce Payne & Associates**, management consultants. He will continue to work with the southern division of the firm, and live in Greenville, S. C.

Malcolm V. Macfarlan was recently made manager of the viscose rayon sales division of **American Viscose Corp.**

Richard Printz has been assigned by **Momar Inc.**, Atlanta, Ga., to introduce its M-4 Magic Cleanser to the textile industry in the state of Alabama.

Mr. Printz

Lestershire Spool & Manufacturing Co., Johnson City, N. Y., established in 1903, is now a wholly owned subsidiary of National Vulcanized Fibre Co. J. W. Marshall is president of both firms, and J. K. Johnston, vice-president, and A. S. Burruss, Jr., secretary-treasurer, of both firms. In addition, R. F. Frenger and F. I. Crow are vice-presidents at National Vulcanized Fibre; D. T. Sterline is

SONOCO'S NEW CONNECTICUT PLANT

Sonoco Products Co. recently opened a new plant at Mystic, Conn. Containing approximately 63,000 sq ft floor space, it will house all of the Mystic operations. The manufacturing area consists of a single story, with the office section on the second floor. G. W. Blunt White is vice-president in charge of north operations, with headquarters in Mystic; A. H. Gildersleeve is general sales manager for the division.

two
great models
for
TESTING
MOISTURE
CONTENT
in wool, cotton, rayon and nylon

MODEL PD-1 for textiles in loose or compressible forms—3" penetration.

MODEL K-2 for textiles in cones, rolls, beams and similar forms.

10-DAY FREE TRIAL!

Try one of these moisture testing instruments for 10 days—use it, test it and prove its superiority. Send samples, moisture range and Purchase Order to cover trial period. No obligation!

QUICK, ACCURATE READINGS

In less than 3 seconds you can test moisture content of practically all types of textile materials, including cotton, wool, rayon and nylon in fabrics, packages and loose forms.

This portable instrument is designed for "on the spot" checks in your plant. Moisture Register is easy to operate—requires no technical knowledge or complicated figuring. Cost is negligible in comparison to advantages. Write today for complete details. Specify type of material to be tested.

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ELECTRONIC MOISTURE REGISTER
Mfd. by Moisture Register Co.

WATERSHIELD

Water Repellent

PJ — one bath

40 — two bath

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Two of the exclusive textile chemicals developed by Kali to meet today's processing problems efficiently.

WATERSHIELD is easily dispersed in baths at temperatures from 120° F and higher without the bath breaking.

If you are doing or contemplating water repellency on government fabrics — get in touch with us.

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Manufacturing Chemists
427 Moyer Street Philadelphia 25, Pa.

M·B "AMOSKEAG" PNEUMATIC ROLL PICKER

MODEL A-VT-A
20,000 R.P.M.

This is NOT a grinder, but the original pneumatic tool especially designed for the SPECIFIC Purpose of

REMOVING LINT and FLY
from the top rolls and other parts of the drafting elements on

SPINNING FRAMES also ROVING FRAMES

Spindle design permits using PICK (which gathers the fly and lint), 3/16" diameter by 5" long when used on Spinning Frames and 3/16" diameter by 7" long when used on Roving Frames. Exhaust air directed back of roll picker to prevent fly and lint from being blown into yarn when spinning, by air deflectors. Weight only 14 oz. Special grease-sealed bearings. No lubrication required.

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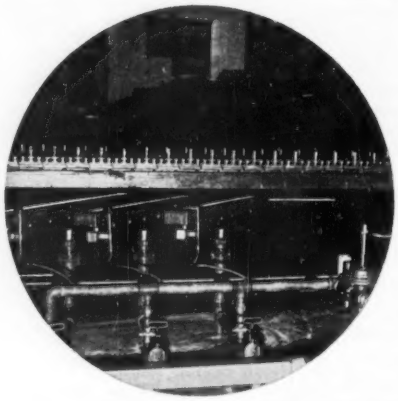

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For Knitting or Weaving
AMERICAN DURENE®
Highest Quality Mercerized Yarn

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CHICAGO, ILLINOIS Wood & Hutchinson, 222 W. Adams St.
NEW YORK, N. Y.
HIGH POINT, N. C., Mr. E. J. Holbrook
GASTONIA, N. C., Mr. T. C. Smotherman

American Yarn & Processing Company
W. H. SUTTENFIELD, Vice-President and Sales Manager
Mount Holly North Carolina

executive vice-president and H. D. Clinton is vice-president of the Lestershire organization.

Watson & Desmond, Charlotte, N. C., have been named southern selling agents for **Mona Industries,** Paterson, N. J., and **Chemicolloid Laboratories,** 30 Church St., New York, N. Y.

Nuodex Products Co., Inc., has announced the appointment of Robert C. Brumberger as manager of fungicide sales. His duties will include supervision of the company's agents throughout the country, and he will also act as technical advisor.

A new southeastern sales office and warehouse have been opened by **Unistrut Products Co.** at 1321 Spring Street, N.W., Atlanta, Ga. Brad Fogerty, formerly with Sylvania Electric Products, has been appointed district manager. In the west coast region, Duncan A. Brownlee was named as the firm's sales and service contact. He was formerly with Reynolds Metal Co.

John Davenport has been added to the **Foster Machine Co.** sales force.

Mr. Davenport

His territory will be northern New England and the Mid-West.

Carbide and Carbon Chemicals Division, Union Carbide and Chemical Corp., has announced the appointment of Arthur L. Snyder as assistant sales manager and Robert K. Kennedy as advertising manager of the textile fibers department. The firm also announced that dynel staple fiber, is now being shipped in bales of 400 lb net of fiber, instead of 350 lb as formerly.

William M. Keller was recently appointed general factories manager of the Fiberglas textile products division of **Owens-Corning Fiberglas Corp.** He was replaced by Lloyd S. Wainfor as manager of the Huntingdon, Pa., Fiberglas textile plant.

Walter M. Mitchell, vice-president of **Draper Corporation** in charge of southern territories, announces the appointment of two division managers for the South, effective November 1, 1951.

Donald Marshall, a graduate of Clemson College in textile engineering in 1938, will be division manager in charge of sales and service

Mr. Marshall

Mr. Kilgore

in South Carolina, North Carolina and Virginia, with headquarters in Spartanburg, S. C.

Wilton Kilgore, a graduate of Alabama Polytechnic Institute in textile engineering in 1937, will be division manager in charge of sales and services in Georgia, Alabama, Tennessee, Mississippi, Louisiana, Texas, Oklahoma, Kentucky, Arkansas and Indiana, with headquarters in Atlanta, Ga.

Both Mr. Kilgore and Mr. Marshall have been in the employ of Draper Corporation ever since leaving college, except for the time each spent in the army during World War II.

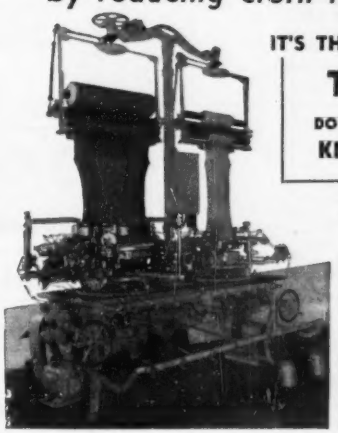
Mr. Mitchell will continue to divide his time between both territories.

Acme Steel Co. has announced the appointment of William G. Polley as district sales manager at Atlanta, Ga., in charge of sales in Alabama, Florida, Georgia, and Tennessee. He is succeeded as southern area special representative by Charles R. Lammers, transferred from Buffalo, N. Y.

Gray Co., Inc., has just announced the opening of a new laboratory for testing pumping and spraying qualities of such materials as coatings, adhesives, sealers, and greases. Another testing laboratory is maintained in

SUPPLIERS News
WHAT THEY ARE DOING

SAVES ON WASTE
by reducing cloth imperfections!



IT'S THE NEW

TOMPKINS

DOUBLE HEAD SPRING NEEDLE
KNITTING MACHINE

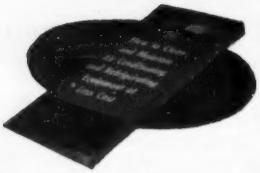
SAVES ON LABOR!
SAVES ON WASTE!
SAVES ON NEEDLES!

Cutting out imperfections from knitted cloth has always been time-consuming and costly. New stop motion and furnishing wheels on the NEW TOMPKINS DOUBLE HEAD MACHINE provide knitters with a much welcomed solution! *Imperfections are caught before they get into the cloth!*

New five-speed individual drive motors for each head provide easy, quick changes. Stop motion is conveniently located below the table—with nothing in the operator's way for removing cylinders or take-up! You get new speed and new economy PLUS the versatility of fabrics (fine silk underwear to heavy overcoating) for which Tompkins machines have been world renowned since 1846!

TOMPKINS BROS. CO.
623 ONEIDA ST. SYRACUSE 4, N. Y.

FREE Data On Cleaning Air-Conditioning Equipment



THIS handy little booklet tells all about good maintenance of air conditioning equipment. How to get rid of lime scale . . . how to prevent it from forming. Tells how to fight slime, how to prevent it from fouling up lines, tanks, spray jets. Gives details on cleaning finned coils of air-washers . . . cleaning aluminum plates and screens . . . descaling cold diffusers . . . cleaning glass filter screens, etc.

FREE copy sent on request. Write Oakite Products, Inc., 26C Thames St., New York 6, N. Y.

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the old yarn-storage bin.

Style 21 stacking type

LANE
Canvas Boxes

Doff—wind—condition—store.
Function from spindle to loom.
No more dumping into splintery bins.
Just tier up boxes till needed.
Save waste—Save labor.

Write for Catalog No. 1-50

W. T. LANE & BROS., Inc.
Manufacturers
Poughkeepsie, N. Y.

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in a stew about static?

Operating cost of the Simco "*Midget*"—the safest and most effective means of static elimination—is less than 1/10c per day! The initial expenditure, therefore, is essentially the only cost... and Simco prices are *lower* for the average installation. Write for free information.

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Surveys–Reorganizations–New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing, Bleaching, Dyeing, Printing and Finishing.

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Knitting and Warp Yarn

4's to 30's

AVONDALE MILLS
SYLACAUGA, ALABAMA

SALES REPRESENTATIVES
COMER-AVONDALE MILLS, INC.
Boston — Chattanooga — Chicago — Charlotte
New York — Philadelphia — Reading

SUPPLIERS News
WHAT THEY ARE DOING

Minneapolis, and a third will be opened in Atlanta in 1952. Facilities of the laboratory are available to any firm in the New England, Middle Atlantic, South Atlantic, and East South Central states which wants material tested or has a pumping problem.

Frederick A. Odell, Jr., with the firm since 1937, has been appointed supervisor head office sales for **H & B American Machine Co.** The company has also announced the appointment of Harold S. Barney to the New England sales staff, succeeding the late Ernest Haswell.

Charles C. Bell and Winthrop S. Warren were recently elected vice-presidents of **Universal Winding Co.** They will continue in their present capacities as director of research and engineering, and domestic sales manager, respectively.

Harry J. Noles succeeds the late Howard W. Pound as manager of the air filter division of the **American Air Filter Co., Inc.** Mr. Noles was formerly assistant manager of the division.

T. W. Kitchen, Greenville, S. C., has been appointed to represent **Cook-P & N Machine Co.** in the southern states.

H. Haley Ector has been made sales representative in Georgia and Alabama for **Hunt Loom Works, Inc.**

Mr. Ector

Mr. Ector was formerly with West Point Manufacturing Co., and National Ring Traveler Co.

A. R. Caputo, formerly assistant sales manager, has been named to head the sales department at The American Box Co., Cleveland, O.

Harrell J. Auten, formerly field engineer for **Bijur Lubricating Corp.,** operating out of Charlotte, N. C., has

Mr. Auten

been assigned to Newnan, Ga. He will be available to mills in Alabama, Georgia, and Mississippi for consultation and service.

Oliver D. Landis has been appointed exclusive sales representative in North and South Carolina for **Benjamin Booth Co.**

The Sales and Service branch of **Proctor & Schwartz, Inc.,** has opened a new shop near Spartanburg, S. C. It will be completely equipped for reclothing cards and garnetts. The firm has also announced the ap-

NIGHT OVERSEER

of dyeing or finishing or—Asst. Supt., etc.

There are excellent full-time opportunities in the field of technical sales.

IF: You want a high income
You want security
You are a college graduate

You have five years' experience in textile wet processing

You are under 40.

All replies held in strict confidence.

Reply to Box No. 478, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta, Georgia.

Why WIL-MAT Casters Are Better

WIL-MAT Casters roll easier . . . and we can prove it by demonstration. They last longer because of heavier tread and stronger construction . . . won't wear to sharp edges . . . and their tread will not pick up grease, oil or grime. A trial will convince you.

. . . and they don't clog-up

WIL-MAT CASTERS

Ball Bearing RIGID & SWIVEL

Wilkin & Matthews

Charlotte, N. C.

- Hydraulic Lift Kiers
- Stainless Steel Weldments
- Heat Recovery Systems
- Circulation Systems
- Kiers — Steel or Stainless
- Top Dyeing Equipment
- Allen Heaters
- Jacketed Vessels
- Sampling Kiers
- Stainless Steel Dyeing Equipment
- Stainless Steel Tanks
- Continuous Steamers

William Allen Son's Company
Worcester 8, Mass.

LET'S CONSIDER QUALITY . . .

To us at Gastonia Roller, Flyer & Spindle there is no substitute for Quality. Quality First—Quality Last—Quality Throughout Every Operation—is the keynote of our production.

We guarantee customer satisfaction . . . a guarantee which has proved steadfast when backed by our prompt service and top-quality workmanship.

We invite you to test our services, our workmanship and our guarantee of satisfaction for all repairs to rollers, flyers, and spindles.

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1337 W. Second Ave. Gastonia, N. C.

Phone 5-1531 or 5-1030

WE design, fabricate and erect elevated tanks, in capacities from 5,000 to 2,000,000 gallons, with hemispherical, ellipsoidal, or conical bottoms. Write for prices, stating capacity, height to bottom and location.

R. D. COLE MFG. CO.
NEWNAN, GA. *Established 1854*

In textile mills everywhere . . .

Save time—Save work!

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SHAMROCK

CANVAS BASKETS, TRUCKS, HAMPERS, OPERATORS' BENCHES

Made in standard sizes or in special sizes to meet your needs . . . Write for complete catalog.

Manufactured by
MEESE, INC.
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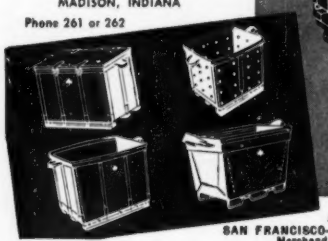

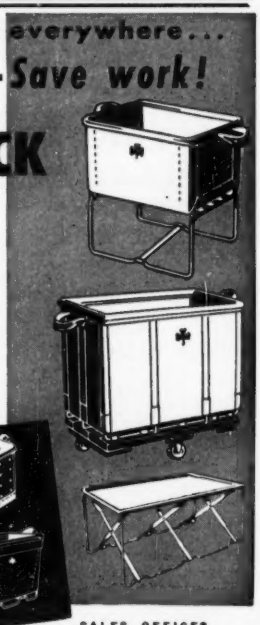

NEW YORK
37 W. 43rd St., MU 2-1437
ATLANTA—4403 Jefferson St.
Chamblee, Ga., Phone 2430

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LOS ANGELES—c/o Glenn B. White & Assoc. 1151 So. Broadway, PR 4169
CHICAGO—R. M. Thorsen 1400 Lake Shore Drive, Whitehall 4-4180

SUPPLIERS News
WHAT THEY ARE DOING

pointment of Albert G. Blank as assistant sales manager of the dryer division.

Robert W. Rometsch was recently made sales representative in the extractor division of **Fletcher Works.**

Mr. Rometsch

Mr. Rometsch is the son of Robert H. Rometsch, secretary-treasurer of the firm, and is the third generation of the family in the firm.

Six new operating divisions have been formed by **General Electric Co.** Glenn B. Warren has been made general manager of the turbine division; James M. Crawford, manager of the motor and generator division; Francis E. Fairman, Jr., transformer and allied products division; George E. Burens, switchgear and control division; Harold E. Strang, measurements and industrial products division; and William C. Wichman, component products division.

440,000 acres of pine land near Foley, Fla., have been purchased by the **Buckeye Cellulose Corp.,** a wholly-owned subsidiary of Proctor & Gamble. The property will be used to expand capacity for the production of cellulose.

As part of its $50,000 expansion program, **Amalgamated Chemical Corp.,** Philadelphia, Pa., has a new 750-gallon glass-lined reactor equipped with condensers and receivers for operation under vacuum. Other features of the program include an enlarged research and consulting service department and a greatly increased capacity for synthesizing chemicals.

J. E. Spearman, formerly with the North American Rayon Corp., and American Enka Corp., has joined

Mr. Spearman

Seydel-Woolley & Co., as a representative in sales and service work, selling to the wet finishing division of the industry.

A new long fiber division, to be known as the Werner-Tex Division, was recently established by **Werner Textile Consultants.** Germinal Giraudi, European textile engineer, will head the division.

James H. Crow, Jr., formerly presiding judge of the eighth judicial circuit of Alabama, was recently appointed administrative assistant to the president of **The Chemstrand Corp.** William G. Luttge, formerly with American Viscose Corp., was named sales manager to handle sales of the firm's new acrylic fiber "Acrilan" and nylon. The sales or-

TEXTILE PROCESS ENGINEERS INC.

TPE

Specialists in technical and management controls with a 14-point survey which includes such important factors as:

1. Plant Layout
2. Checking Machine Capacities
3. Checking Processes
4. Revising Operating Methods.
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Our business is to improve mill profits. Satisfactory results guaranteed. Client references upon request.

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42
STOCK SIZES
IN
HALLOWELL
SOLID STEEL
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Precision machined for shafts from 3/16" to 3" diameter inclusive.

Write for prices and name of your nearest distributor.
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in NASHVILLE
The Andrew Jackson
Leon Womble, Manager
in MONTGOMERY
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Homer Spiva, Manager
Executive Offices: Atlanta
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Carling Dinkler, Jr., Vice Pres. and Gen. Mgr.

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ECONOMY BALING PRESSES
ALL SIZES FOR ALL PURPOSES
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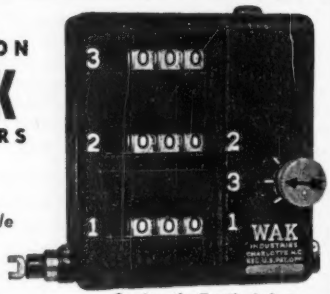
COUNT ON
WAK
COUNTERS
- *Rugged*
- *Accurate*
- *Dependable*



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INDUSTRIES
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Precision-Built Kentex Aprons made to any specifications, on short notice. Write for free samples and prices. We are world's largest manufacturers of genuine leather textile aprons.

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Hugh Williams & Company, Toronto Canada—Canadian Representative

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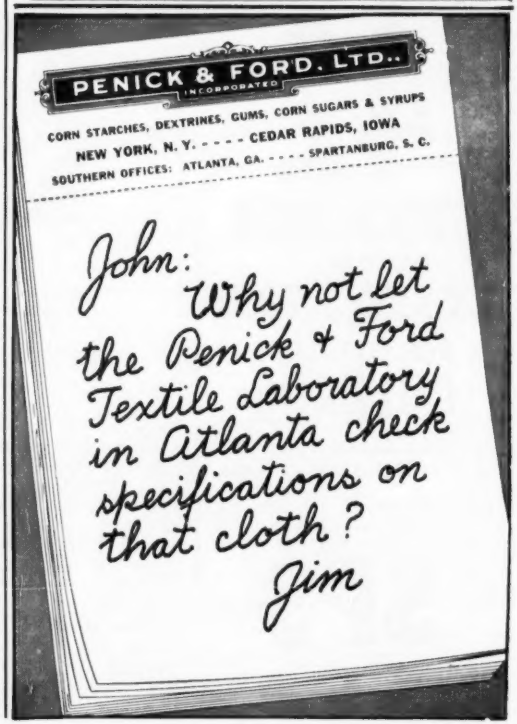
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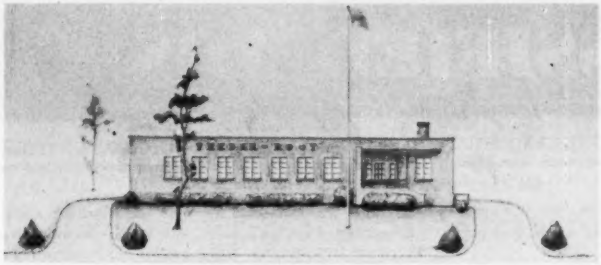
SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.
John: Why not let the Penick & Ford Textile Laboratory in Atlanta check specifications on that cloth?
Jim



VEEDER-ROOT BREAKS GROUND FOR BUILDING IN SOUTH CAROLINA

Veeder-Root Inc. recently began construction of a modern building near Greenville, S. C., which when completed will replace the present offices in Greenville. The new building will serve as the sales and service center for the southern and southeastern territory on the complete line of Veeder-Root counters.

ganization has its headquarters at 350 Fifth Avenue, New York, N. Y.

A new plant for the manufacture of Hallmark brand industrial adhesives in dry and liquid form was opened recently by **Stein, Hall & Co.** It is located at 3750 South Loomis Place, Chicago, Ill.

Formerly with Flintkote Co., George N. Brunt is now associated with **Southern Latex Corp.**, Austell, Ga., as general manager.

Pittsburgh Plate Glass Co. is entering the fiber glass production field, with two types of fiber glass to be manufactured under licensing

SUPPLIERS News
WHAT THEY ARE DOING

agreement with Owens-Corning Fiberglas Corp. The new division will be headed by J. Hervey Sherts. **Columbia-Southern Chemical Corp.**, a subsidiary of Pittsburgh Plate Glass, has announced the appointment of H. W. Gleichert as assistant to the vice-president in the new sales organization; E. W. Haley, director of sales; and A. W. Reynolds, administrative assistant to the vice-president in charge of sales.

The **American Thread Co.** has moved its Boston branch office and warehouse to a new building at 173 Needham Street, Newton Upper Falls, Mass. The building is a 22,800 sq ft one-story structure.

Julius H. Nill has been made regional manager for **Metallising Engineering Co., Inc.**, with offices in New Orleans.

5000 relatives and friends of employees of the **Pangborn Corp.**, Hagerstown, Md., recently toured the plant at the company's first full scale open house.

"THERE IS HARDLY ANYTHING IN THE WORLD THAT SOME MAN CANNOT MAKE A LITTLE WORSE AND SELL A LITTLE CHEAPER, AND THE PEOPLE WHO CONSIDER PRICE ONLY ARE THIS MAN'S LAWFUL PREY." (John Ruskin)

There has never been a truer statement

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W. Harry King, P. O. Box 272, Atlanta, Ga.

M. L. Johnston, Charlotte, N. C.
Donald C. Creech, Charlotte, N. C.
Henry A. Carter, Pawtucket, R. I.
Robert M. Leach, Pawtucket, R. I.

William H. Harned, General Manager

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Leather ROLLER COVERING AND *Long Draft Aprons*

SEND TRIAL ORDER FOR APRONS OR BOX OF ROLLERS —COMBER DETACHING, LAPPER, DRAWING, DRAW BOX, SLIP, OR SPINNING.

PEERLESS ROLLER COVERING SHOP

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BUSINESS—EMPLOYMENT—EQUIPMENT—PROFESSIONAL CARDS—OPPORTUNITIES

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Rates are net, payable in advance each month. Page is 3 columns, 10 inches deep—30 inches to page. Space measured by even inch vertically by 1, 2 or 3 columns in width. Column width 2¼ inches.
Transient rate for display classified, $8.00 per inch.
Contract rate for space within 12 months period as follows:

	Per Inch		Per Inch
12 inches	$7.50	48 inches	$6.75
24 inches	7.25	96 inches	6.50
36 inches	7.00	180 inches	6.00

POSITION WANTED: 10c per word per insertion; minimum charge $2.00. Cash with order. Box Number address care of TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Ga., count as eight words. Advertisements for help wanted, equipment for sale, for rent or wanted, and professional cards are accepted at display rates only.

POSITIONS OPEN—MEN WANTED: We can place overseer cloth room and finishing combined on denims; overseer woolen carding, carpet yarns; overseer latch needle knitting; chemists and chemical engineers, salary range $5,000 to $9,000 a year; mechanical engineers, master mechanics, designers and draftsmen, salary range $5,000 to $10,000 year; industrial engineers; fixer velvet carpet looms.

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"The Machinery Man Known Everywhere"
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14—40" H&B Cards, 100 and 110 wire, 12" Coilers
11—40" Mason Cards, 100 and 110 wire, 12" Coilers
1—Super Cleaner, 1951 Model
1—40" Kitson two-beater single process picker. Aldrich Synchronizer
3—#101 Foster Winders, paper cones, double motors, 550 volts, 100 spindles
15—Sets B. S. Roy Card Grinders for 40" Cards
100—High Speed Model L Bahnson Humidifiers, 3/60/550, 3450 RPM

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1200—¼ H.P. General Electric Motors, Totally Enclosed, Ball Bearing, 220 Volts, 3 Phase, 60 Cycle, 1140 R.P.M.

800—⅓ H.P. General Electric Motors, Totally Enclosed, Ball Bearing, 220 Volts, 3 Phase, 60 Cycle, 1725 R.P.M.

All motors brand new and in their original cartons.

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Wanted YARNS { COTTONS • NYLONS / RAYONS • ACETATES

All sizes on cones, skeins or cakes. Small or large lots. Submit your offerings. Our prices are TOPS.

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APTEX, INC. 1407 BROADWAY, NEW YORK CITY
Bryant 9-2565-6-7-8-9 — 2570-1-2-3-4

RENEW YOUR SUBSCRIPTION TO TEXTILE INDUSTRIES

WANTED

Position as superintendent or overseer of weaving by sober reliable man of good character. I.C.S. Graduate in fancy cotton weaving, eighteen years experience on white and colored weaving and slashing on most prominent quality cloths, including corduroys. Good manager of help and thoroughly experienced in every essential for good efficiency with minimum seconds. References furnished. Reply to Box No. 476, TEXTILE INDUSTRIES, 806 Peachtree St., N.E., Atlanta 5, Ga.

POSITION WANTED

Experienced cotton mill superintendent now employed desires change of location. Textile School graduate, reared in cotton mill community. Have more than 18 years well rounded experience on XP-Xu-X-B-Mod D and C&K looms weaving all types fabrics. Can produce highest quality and efficiency with good labor relations. A-1 references. Reply to Box No. 477, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Georgia.

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COMER MACHINERY COMPANY

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5—Lummus enclosed blending feeders, 1947.
1—Aldrich single beater cylinder opener, 1947.
2—Whitin Model C return air condensers, 1947.
2—Aldrich 40" single process pickers, 3 beaters, 1947.
1—Saco-Lowell 40" single process picker, 2 beaters complete with blending reserves.
34—Whitin 40" cards, 27" doffers, 12" coilers, 1917 and 1929.
6—Saco-Lowell drawing frames, 5 deliveries each, cushion top rolls, 12" coilers, 1917.
8—Saco-Lowell 10x5 slubbers, 80 spindles each, Whitin interdraft.
6—H&B 10x5 slubbers, 96 spindles each, Whitin interdraft.
8—Saco-Lowell 9x4½ slubbers, 104 spindles each, J3 long draft.
4—Whitin 9x4½ slubbers, 96 spindles each, Whitin interdraft.
4—Woonsocket 9x4½ slubbers, 104 spindles each, Whitin interdraft.
6—Saco-Lowell 8x4 slubbers, 152 spindles each, Saco-Lowell J3 l.d.
2—Saco-Lowell 8x4 slubbers, 128 spindles each, Whitin interdraft.
3—Woonsocket 8x4 slubbers, 152 spindles each, H&B 5-roll l.d.
6—Whitin 8x4 speeders, 120 spindles each, regular draft.
8—Whitin 7x3½ speeders, 160 spindles each, regular draft.
14—Frames Whitin tape drive spinning, 3" gauge, 2" rings, equipped with Whitin l.d. 1948; 6—204 sp., 8—272 sp.
50—Frames Whitin band drive spinning, 3" gauge, 2" rings, equipped with Whitin l.d. 1948; 22—240 sp., 28—252 sp.
1—Abbott Model 65 cone winder, 160 spindles.
2—Foster Model 102 Winders, 100 spindles each, 1945, paper cones.
1—Universal Roto-Coner, 120 spindles, 1946, paper cones.
1—Saco-Lowell high speed warper with magazine creel.
18—Draper Modified D 40" looms.
100—Draper Modified D 60" looms.
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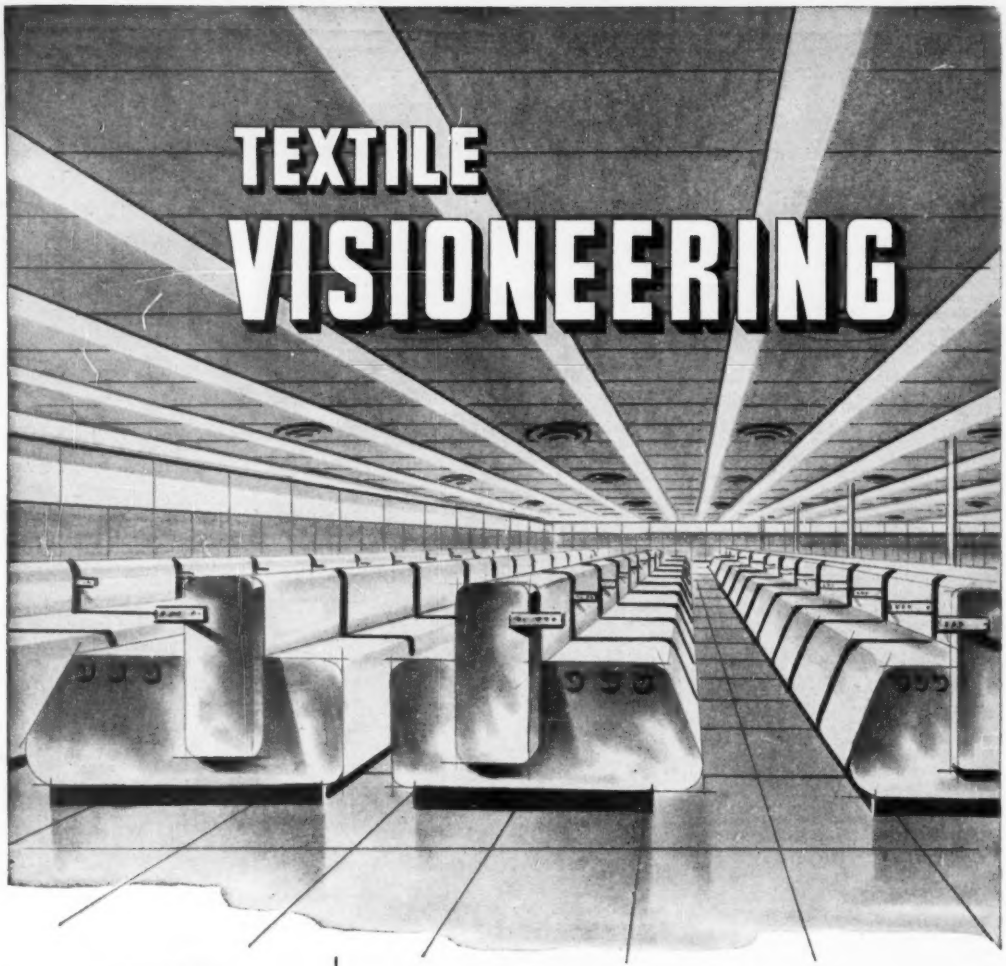

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ATLANTA

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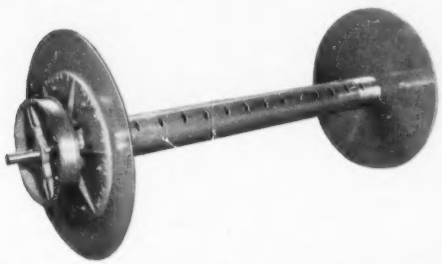
PUBLISHED BY EDWARD J. McBRIDE CO., INC. • 1398 ADAMS AVENUE • PHILADELPHIA 24, PA.

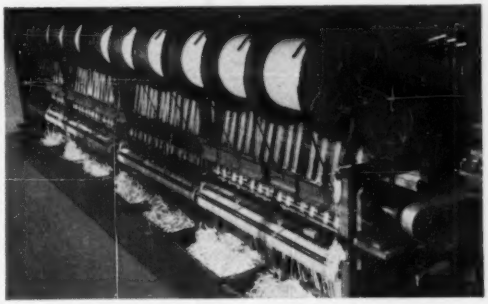
McBRIDE BEAMS FOR BROADLOOM WEAVING

All Metal Beams for Crompton and Knowles looms—This McBRIDE loom beam has a steel barrel with threaded ends providing full adjustment for the cast iron flanges. For cotton, woolen, synthetic and plastic yarns these rugged beams will withstand hard, continual usage.



Plush type loom beam positive or friction let-off—This heavy duty plush type loom beam can be built for geared or friction let-off as shown above. Flanges of steel plate with cast iron hubs are threaded for fast, easy adjustment. These beams are adaptable to all types of plush looms, including Guskin, Mawaco, Tonnar and Crompton and Knowles.

Designed for your requirements—All McBRIDE Loom Beams are designed to fit customers' individual requirements for all yarns and weaves. For full information and prices consult the Edward J. McBride Company. McBRIDE engineers will make complete "on the job" layouts to fit the equipment to the needs of your plant.



IMPROVE NARROW FABRIC WEAVING WITH McBRIDE LOOM BEAM INSTALLATIONS

The Tricot Type narrow fabric loom beam installation shown above is one of many similar successful and efficient McBRIDE units.

Warps Prepared on Standard Equipment—Production time is saved with this McBRIDE system because warps are made directly on loom beams using a section beamer and magazine creel. Rebeaming from section beams to loom beams is completely eliminated.

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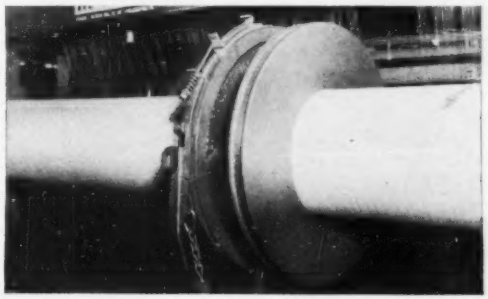
Completely Engineered Installation modernizes your narrow fabric looms at a fraction of the cost of new equipment.

Without obligation McBRIDE Engineers will make a thorough study of your looms and warping equipment. All parts for a complete, efficient operating installation including brackets, stands, brake bands, etc. are designed to fit your particular looms and warping equipment.



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